103

CLEAN AIR ACT IMPLEMENTATION

Y 4. EN 2/3: 103-166

Clean Air Act Implementation, Seria...

HEARINGS

BEFORE THE

SUBCOMMITTEE ON
ENERGY AND POWER

OF THE

COMMITTEE ON
ENERGY AND COMMERCE
HOUSE OF REPRESENTATIVES

ONE HUNDRED THIRD CONGRESS

SECOND SESSION

SEPTEMBER 29 AND OCTOBER 5, 1994

Serial No. 103–166

Printed for the use of the Committee on Energy and Commerce

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CLEAN AIR ACT IMPLEMENTATION

THURSDAY, SEPTEMBER 29, 1994

House of Representatives,
Committee on Energy and Commerce,
Subcommittee on Energy and Power,
Washington, DC.

The subcommittee met, pursuant to notice, at 10:46 a.m., in room 2322, Rayburn House Office Building, Hon. Philip R. Sharp (chairman) presiding.

Mr. Sharp. The subcommittee will please come to order. Today's subcommittee hearing focuses on the price, the supply and logistical problems that we may have with the December 1 introduction of reformulated gas, or RFG. As most of us know, today's price of gasoline is nearly the lowest in 50 years. It is cheaper than bottled water. But with RFG, this may change. RFG promises 15 percent or more reductions in the car emissions that are a major cause of smog in about one-third of the Nation. But RFG also has greatly reduced the "fungibility" of gasoline. Having just a few grades of a chemically similar, interchangeable fuel that can be shipped and mixed with all other gasolines across the whole Nation has been a big factor in low prices and the ease of distribution in this country.

Now, however, the industry faces a logistical challenge. There are now dozens of different "flavors" of RFG around. Many cannot be mixed in the countless distribution networks that move fuel from refineries through pipelines, barges, terminals and trucks to the retail gas station tanks. Resulting bottlenecks could create temporary disruptions or spot shortages. If motorists perceive a shortage, they may rush to fill up and make things worse.

As some of my colleagues recall, the tiny 1 percent shortages of world oil supply in 1973 and 1979 ended up tripling and doubling oil prices. That is how inelastic, deregulated, free markets work.

RFG has been an expensive proposition for oil refiners. Billions have been spent on new facilities. Nevertheless, RFG supporters indicated it would only cost about 5 cents per gallon. Pure supply and demand factors, however, can make the price far higher than that in a tight market.

The market may regrettably be even tighter because of Congress' recent action in approving tougher standards for foreign refiners than for U.S. refiners.

Ironically, "gaming" the EPA regulations this way has been engineered by some of the same refiners that often lecture us on the importance of free trade and the evils of excessive government fuel regulation. Worse, some of these same refiners will now be able to sell RFG on the East Coast that is in several ways not as clean as the Venezuelan gasoline they have denounced as "dirty."

I hope my colleagues remember their speeches on the evils of the Btu tax last year. The motorist and the economy, they said then could not stand a 5 cent gas tax. I hope they don't have a much bigger "tax" increase coming our way December 1.

With that, let me call upon our distinguished colleague from Florida, Mr. Bilirakis.

Mr. BILIRAKIS. Thank you, Mr. Chairman.

Mr. Chairman, thanks for this—I guess it is a timely hearing. It really is; we don't expect hearings at this stage of the process, but I guess if anyone is going to violate that rule and continue on with this——

Mr. SHARP. One more seminar.

Mr. BILIRAKIS. [continuing] it would be Mr. Sharp. Anyhow, Mr. Chairman, this hearing, I think if we do it correctly, presents an excellent opportunity for us to explore the readiness and capability of the U.S. refining and gasoline distribution industries to meet the demand for reformulated gasoline on January 1, 1995. Because of the sheer size of this undertaking—and you mentioned this—there is tremendous potential for problems if implementation is handled incorrectly.

EPA's new RFG rules have presented refiners, marketers, terminal operators, pipeline operators and distributors with many new and complex challenges. For example, because many different types of gasoline must now be refined, more storage tanks will be required to keep the products separated.

Similarly, because EPA's enforcement of the RFG rules requires each tank of gasoline to be tested before it can be shipped, refiners and terminal operators will not be able to move as many barrels through the tank during a year. These storage constraints could then lead to bottlenecks in other portions of the transportation systems.

I am sure I don't need to tell anyone here—and you mentioned this also, Mr. Chairman—of the potential consequences if there are problems with RFG supply, if there are shortages or price spikes. Most serious, however, is that public support—and we have got to take this into consideration and keep it in mind always—is that public support for the Clean Air Act amendments and its policies would erode dramatically.

I raise these issues, Mr. Chairman, because I believe that the potential benefit to the American public from RFG is tremendous. By the same token, if this rule is not implemented smoothly, then the consequences, gasoline shortages when there is an oil glut and gasoline price spikes when the price of oil is depressed, are serious. I believe we must make every effort to ensure that these things do not happen and that we are capable of responding if they do.

So, Mr. Chairman, I look forward to this hearing—it is timely—and look forward to hearing from our witnesses. Thank you.

Mr. SHARP. Thank you very much.

I might say, Mr. Bilirakis, I strongly share your perspective that really what we want to see happen is a smooth implementation of these rules. Because I think, at heart, is in part the question of credibility for whether the government and the industry to some degree, though they have moved aggressively to try to implement this, can carry out a solid policy.

I might add, it was a point I made on the House Floor in saying why I thought Congress was foolish for meddling in the rule at this late date, apart from the substance of whether you believe the rule was correct or not correct. It was just rather stupid to try to replay the game near the end when we have a lot of serious hurdles to get over.

With that, let me recognize Ms. Lambert.

Ms. LAMBERT. I don't have an opening statement, Mr. Chairman. I am just interested to hear from our colleagues, as well as the panels that you put together.

I think you both put it pretty plainly, that it is important for us to see the RFG, but also to make sure that it is done in a reasonable and fair manner, that we really achieve the goals that we are out to achieve as opposed to getting Btu'd again.

Thank you.

Mr. SHARP. With that, we welcome our first distinguished Member of the House of Representatives from Massachusetts, Mr. Joseph Kennedy, who has been interested in a number of energy issues over the years and, along with his colleagues from his part of the country, is intensely interested in this one.

STATEMENT OF HON. JOSEPH P. KENNEDY, II, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MASSACHUSETTS

Mr. KENNEDY. Thank you very much, Mr. Chairman, members of the committee. I very much appreciate the opportunity you provided me to come and speak with you for a few minutes this morning on the whole issue of reformulated gasoline. This is an issue that I know that you have an interest in, Mr. Chairman, and I just want to say what a honor it is to be with you on what may very well be one of the last hearings that you chair here in the Congress, although I suppose we have got a week.

Mike, you might be in for four or five more.

Mr. BILIRAKIS. At least two, Joe.

Mr. KENNEDY. In any event, I am honored to be before this committee, because under the leadership of Chairman Sharp, so many changes, positive changes, have occurred for the Nation's consumers and I think the industry, as well, in terms of the maturation of the natural gas industry as well as other concerns, including conservation of energy as a real alternative for the people of the country. That only would have happened with the cooperative leadership that Mr. Sharp and Mr. Bilirakis and others have shown. So I do consider it a real honor to come before you today.

This is an issue that I care very deeply about. I spent many, many years in the energy business before I came to the Congress of the United States. The company that I started imported large quantities of oil from Venezuela. It is a market I know very, very well. I know the New England distribution market very, very well; and I think this is one of the dumbest things that I have seen the Congress do in terms of meddling in the free flow of fuels internationally.

Not only is it silly in terms of the basic economics and the notion that somehow or another this is going to be looking out for the domestic oil industry, but in terms of the long-run interests of this country. It doesn't seem to me to make a lot of sense that we ought to be establishing pricing policies that favor domestic production versus offshore production at this time.

The United States has popped more holes in the ground than any other nation in the world in order to find crude oil. To think that we are such a special generation that we are going to find every last drop of oil in the next 20 or 30 years in the United States and leave this country without any domestic reserves, I think is real folly. So I think that having a balance between offshore imports as well as domestic production makes a great deal of sense. And I think trying to have the international marketplaces set the price and have our domestic producers compete against the international price is something that they have been able to handle very, very well for well over 100 years in this country; and I think they can continue to handle it.

Obviously, they faced difficulties in the past, but I don't think that we have ever seen, when we try to build a wall around the United States and try to protect our prices here internally, that somehow that in the long run ends up assisting either the industry or the consumer. It just simply doesn't work.

Having said that, I just want to say that the impact of the pending reformulated gas regulations may have a dismantling effect on our Nation's fuel supply and the structure of the petroleum industry to the disadvantage of independents and the economy through substantial price increases. The stakes are especially high in the northeast, and New England in particular. All northeast States, from Virginia to Maine, have opted into the new reformulated gas program. Not only in the northeast—is the northeast the largest RFG market, but it has the most complex distribution system and is the most dependent on gasoline imports.

The fact is that domestic independents rely on imports for almost 50 percent of their oil. Citizens in northeastern States count on imported gasoline for as much as 30 percent of their energy needs. Nationwide, we rely on gasoline imports for 3 to 5 percent of domestic consumption each day, and experts estimate that the dislocation of imported fuel could potentially raise the price of gasoline anywhere from 10 to 31 cents per gallon.

DOE itself predicts that spot shortages—I am quoting now—"spot shortages and higher prices beyond the 5 to 7 percent per gallon increased cost as a result of producing RFG", could occur. According to DOE analysis, the system will be operating at the, "maximum capacity" with less margin to handle unforeseen events like cold weather or a kink in the distribution system. And the EPA has acknowledged that the implementation of this program will be "the toughest environmental challenge," that the fuels industry has ever faced.

The warning signs are already apparent. Just look at yesterday's futures price on the New York Merc. The price has already moved 9 cents a gallon as a result of the changes that took place on the House Floor just last week. Many claim that there will be no supply shortage, but recent U.S. industry contacts with the European refiners yielded no contracts for supplies of RFG and signaled only a limited capability of producing at a higher standard.

Unfortunately, the vote on the VA-HUD appropriations bill prevented the EPA from finalizing the so-called "Venezuelan rule", which would have allowed foreign refiners to operate at the same environmental standards, off of their 1990 baselines, just as domestic refiners.

With that in mind, the best solution to level the playing field between domestic importers and refiners is for the EPA to amend its pending regs. Under this alternative, domestic independents would be assigned "average regional baseline," for fuel content, rather than the EPA's pending national standard, which is higher because it includes California's cleaner fuel. This standard could be derived from data from the region east of the Rockies, where the independents compete. The independents would assume all the responsibility for certifying that their reformulated gasoline meets all the standards upon leaving the terminal, subject to EPA jurisdiction and penalties. This is an enforceable and fair approach.

This proposal is entirely consistent with the environmental mandate of the Clean Air Act, and there are no environmental—there is no environmental rationale for treating domestic independents and refiners differently.

In short and in sum, Mr. Chairman, and members of the committee, what we have here is a blatant attempt by the domestic industry under the guise of an environmental cloak of sort of "green legislation", to promote domestic use of gasoline versus imported gasoline. It essentially is going to hurt particular regions of the country through no rationale. It will not assist in terms of the overall health standards or environmental standards of this country, and I think we ought to make every attempt to punch through the veil that has been covered in the debate on the House Floor last week.

I will bet many members of this committee would agree that there were an unbelievable number of members that walked onto the House Floor vote last week not knowing what this particular piece of legislation was going to do. People asked constantly on the House Floor what the impact was. There was a—there was a notion that somehow the environmental, pro vote was to knock out the Venezuelan or foreign imported gasolines.

I don't think that it was an informed vote, and I think that—having voted, I think that it does make a great deal of sense that you are having this hearing today. And I would urge those members of the committee to try and bring some logic to bear on EPA to change their standards and to allow, through the regulatory process, for an equalization of the playing field.

So with that in mind, Mr. Chairman, I will let you get on to your other witnesses. But I very much appreciate the opportunity to make my views clear on this issue.

Mr. SHARP. Well, thank you very much.

Do you have any questions?

Mr. BILIRAKIS. I don't have any questions.

I tend to agree with you, Joe. I don't think it was a very informed vote. I know I voted differently than our chairman did. I know he made every effort to try to explain on the Floor, but we are all busy people and don't oftentimes pay too much attention to the debate on the Floor; and I think we have to admit that. And that is why a hearing like this is so very important. I just hope that whatever knowledge we gain here today will inure to the benefit of the next Congress and the next committee, if you will, of Energy and Power, so that we are better informed. I am not saying that I will change my thinking in terms of the vote, but at least I would be a lot better informed.

So I agree with you, I think it was a very uninformed vote.

Ms. LAMBERT. Just to add, not only was it uninformed, but it was inappropriate to be voting on that kind of an issue under an appropriations, or under the cloak for an appropriation.

Mr. BILIRAKIS. Well, that happens here.

Ms. LAMBERT. But just to say that, all the more reason, as Joe pointed out, for the importance of this hearing here.

Mr. SHARP. We appreciate the gentlewoman's statement. We still don't have any rules that protect against inappropriateness. The germaneness rules barely work.

Mr. BILIRAKIS. We would waive it.

Mr. SHARP. We would waive it, yes.

Thank you very much. We really appreciate your testimony.

Mr. KENNEDY. Thank you very much.

Mr. Markey, it is good to see you. You take it away.

Mr. SHARP. We are very pleased now—oh, first of all, I want to put in the opening statements of Mr. Synar, who will be with us shortly, he is at the Judiciary Committee, and Mr. Hastert into the record.

[The prepared statements of Hon. Mike Synar and Hon. J. Dennis Hastert follow:]

STATEMENT OF HON. MIKE SYNAR

Mr. Chairman, thank you for holding this hearing on the reformulated gasoline program and its effects on U.S. gasoline supplies. As I have stated before, seldom has an issue been more misunderstood by Members of Congress and seldom have I seen a group of special interests so intent on misleading Congress about the facts. Perhaps highly technical issues do not show us at our best. As a result, we sometimes let unfamiliar names like olefins and aromatics cloud our minds and divert us from the real issues.

I'm sure that there will be lively debate here today about whether Venezuelan gasoline is dirty or clean, whether reformulated gasoline will cost 5 cents more a gallon or 15 cents or whether it will even be available where it is needed. But one think is certain—Congress, or at least this committee, will have learned that some issues are much more complicated than they seem at first blush.

If we learn anything from this experience it should be this—don't trust everything you are told. Try and find the facts independently and don't rely solely on a few interest groups for information.

Venezuela's national oil company, PDVSA, did not seek "special" treatment under the EPA rule, much less an "exemption" from the Clean Air Act. Instead it sought the same treatment as U.S. refiners received. While the debate was painted as one between "clean" and "dirty" gasoline, in fact, the vast majority of U.S. refiners. And under the law, they don't have to meet these stricter standards.

Earlier this month the House voted to use EPA's appropriations bill as a vehicle for stopping EPA from implementing new regulations which go part way in reversing EPA's original bias against foreign gasoline. The result was action which could cause disruptions in gasoline supplies, especially in the Northeast, harm a loyal U.S. ally and produce no improvement whatsoever in environmental quality. We can do better than that.

STATEMENT OF HON. J. DENNIS HASTERT

Thank you, Mr. Chairman. I want to thank you for holding this oversight hearing today on the implementation of the Reformulated Gasoline program required under the Clean Air Act Amendments of 1990. All too often, Congress gets so absorbed in passing legislation that we fail to scrutinize the results of our actions. Today will give us the opportunity to examine several important issues related to this program.

One topic that we will examine today is of particular significance to the success of this program—ethanol. As all of those present today are aware, this year EPA issued a rule requiring that 15 percent of the oxygenate requirement under the Clean Air Act Amendments come from renewable oxygenates such as ethanol through 1997. That amount would increase to 30 percent in 1998.

Unfortunately, enforcement of EPA's standard is currently on hold due to a stay issued by a Federal Court as a result of a lawsuit filed against EPA to enjoin it from enforcing this rule. I am not a lawyer—and proud of it, I might add—so I do not want to speculate as to why the court issued this stay. What I do know, however, is that Congress clearly intended that ethanol be included in the reformulated gasoline program of the Clean Air Act Amendments and that EPA has the authority to not only promulgate, but also enforce this rule.

All that this law suit will do is delay the implementation of this regulation and in doing so delay the benefits to be derived from the use of ethanol. Indeed, this litigation undermines the goals of the Clean Air Act Amendments of 1990, one of which is to ensure cleaner and healthier air for all Americans.

Again, Mr. Chairman, thank you for holding this hearing today. I look forward to hearing from our witnesses.

Mr. SHARP. And if Mr. Markey, who will be asking questions later, has an opening statement, we will certainly make that a part of the record as well. In fact, I will recognize the gentleman for 1 minute.

Mr. MARKEY. OK, thank you, Mr. Chairman; and I thank you and I thank the gentleman from Massachusetts, as well, for coming and testifying.

On September 12 there was a crime committed on the Floor of the House of Representatives. On that day the big domestic oil companies reached out and picked the pockets of consumers from New England and around the country. This crime occurred because the big domestic oil companies succeeded in duping a majority of Members of the House into adopting Senate language in the VA-HUD conference report. This language prohibits EPA from enforcing its foreign refiner rule and, therefore, denies foreign refiners the ability which domestics are given to use their own individual 1990 RFG baselines for their RFG until 1998, when the single complex model standard takes effect. Sadly, we consumers won't be exactly sure how much the oil companies took from us until July 1, when the RFG rules take effect.

My feeling is why should the offshore refiners be held to more stringent air quality standards than U.S. refiners? Because by effectively removing imported reformulated gasoline from the market, the major domestic oil companies can force gasoline prices through the roof and grab this windfall for themselves. This incarnation of an oil importee could have a tremendously negative impact on gasoline consumers in Massachusetts and the rest of the northeast.

It seems to me that the EPA should modify its statutory baseline standard for imported RFG by at least removing gasoline from California from its average. This would mean that the statutory baseline should reflect the market in which the independent importers and blenders compete. We should be comparing apples to apples here, and the current rules just don't do it.

I have a Massachusetts delegation letter that was sent to the EPA on this issue, and I would like to insert that letter in the record.

[The prepared statement of Mr. Markey and letter referred to follow:]

STATEMENT OF HON. EDWARD J. MARKEY

I would like to thank you, Chairman Sharp, for holding today's hearing on the implementation of the reformulated gasoline rule, as well as for all of your leadership on this issue, and all of the other issues that you have tackled as the chairman of this subcommittee.

On September 12, there was a crime committed on the floor of the House of Representatives. On that day, the big domestic oil companies reached out and picked the pockets of consumers from New England and around the country. This crime occurred because the big domestic oil companies succeeded in duping a majority of Members of the House into adopting Senate language in the VA/HUD conference report. This language prohibits EPA from enforcing its foreign refiner rule, and therefore denies foreign refiners the ability—which domestics are given—to use their own individual 1990 RFG baselines for their RFG until 1998 when the single, "complex-model" standard takes effect. Sadly, we consumers won't be exactly sure how much the oil companies took us for until January 1, when the RFG rule takes effect.

While the current regulatory structure created under the RFG rule is clearly discriminatory against foreign refiners, we must remember that it is also discriminatory against the independent American importers and blenders—who compete directly with the major domestic integrated oil companies, and the consumers who will be forced to pay higher prices for RFG because of the restricted imports. We used to call this sort of tinkering with gasoline markets an oil import fee. I would argue that we should still be calling this an oil import fee. Although by using the cover of the Clean Air Act's RFG mandate, this one sort of becomes a wolf in sheep's clothing.

And furthermore, unlike a traditional oil import fee, where the Federal Government would collect the tax on imported oil, this arrangement doesn't provide any benefit to the Federal treasury. Rather, all the money from this discriminatory arrangement flows out of the wallets of consumers in places like Massachusetts, and into the coffers of the big oil barons.

It's more than a bit ironic that those big environmentalists, the major domestic oil companies were the ones who so righteously were trying to save America from "dirty imported gasoline," while at the same time securing loopholes for their own dirty product—loopholes big enough to drive a tanker truck through.

Why should offshore refiners be held to more stringent air quality standards than U.S. refiners? Because by effectively removing imported reformulated gasoline from the market, the major domestic oil companies can force gasoline prices through the roof, and grab this windfall for themselves. This incarnation of an oil import fee could have a tremendously negative impact on gasoline consumers in Massachusetts and the rest of the Northeast.

The Clinton administration has mulled over the idea of imposing an oil import fee before. This past February, I wrote Commerce Secretary Brown, expressing concern over the possibility of imposing an oil import fee following a petition from the IPAA. And in April, following reports that an oil import fee was being considered as a method of financing health care reform, Congressman Moakley and I wrote President Clinton, again expressing our opposition to this proposal. Today, I would like to reiterate my feelings in this regard and suggest that the current RFG rule is just another attempt at imposing an oil import fee.

Finally, until foreign and domestic RFG can be treated equally, I would urge that imported RFG be treated at least in a fairer and more equitable manner. This would be a tremendous benefit to consumers and the independent fuel suppliers in the northeast without undermining ambient air quality and the goals of the Clean Air Act.

Specifically, I urge the EPA to modify its statutory baseline standard for imported RFG by at least removing gasoline from California from its average. This would mean that the statutory baseline should reflect the market in which the independent importers and blenders compete. We should be comparing apples to apples here, and the current rule doesn't do this. I have a Massachusetts delegation letter that was sent to EPA on this issue, and I would like to insert this letter.

Along with the issues raised in this letter, I would like to submit some questions for EPA later, and would like to have those also put into the record.

CONGRESS OF THE UNITED STATES,
HOUSE OF REPRESENTATIVES,
Washington, DC 20515.

HON. CAROL M. BROWNER,
Administrator,
Environmental Protection Agency,
Washington, DC.

DEAR ADMINISTRATOR BROWNER: We are writing regarding the Environmental Protection Agency's proposed regulations for reformulated gasoline (RFG). We are specifically concerned with the proposed interim rule for RFG content for 1995, 1996, and 1997. These transition regulations were intended to allow the various sectors of the petroleum industry to develop sufficient capacity to produce adequate volumes of RFG in order to meet the stricter across-the-board standards which will take effect in 1998 under the Clean Air Act.

We are concerned that this proposed rule may hurt New England consumers and our local economy by its potential impact on independent petroleum marketers in our region's gasoline distribution system. Independent petroleum marketers play a valuable role in the gasoline markets of Massachusetts and the Northeast, and removing them from the gasoline distribution system could lead to supply dislocations and higher gasoline prices for consumers.

While we remain fully committed to the goals of the Clean Air Act, we do not feel that its regulations should unfairly place independent gasoline marketers at a competitive disadvantage relative to their competitors, the major integrated oil companies. EPA's current rule on RFG appears to structure the RFG program in a manner which would substantially restrict competition between independent importers and blenders and domestic suppliers. The effect of the draft regulation may manipulate the gasoline market in a manner that could cause: a loss of market share for the independent importers and blenders; the displacement of their employees due to greater economic centralization; and higher consumer prices for gasoline.

Under the interim rule, domestic refiners are permitted—during the transition years of 1995, 1996, and 1997—to certify their RFG under an individual baseline calculated from 1990 and post-1990 data. Domestic importers and blenders, however, are required to adhere to the Clean Air Act's "statutory baseline" standards. This baseline is more rigorous than the average domestic refiners' baseline because it includes fuel specifications from the California market which has far stricter emissions controls than the rest of the country. Thus an independent marketer in New England would be disadvantaged in relation to the East Coast domestic refiners with whom the independents compete.

We understand that the EPA has requested comments on alternative methods of implementing the RFG rules as they apply to imported product. We are aware that representatives of the independent gasoline importers and blenders have submitted an alternative proposal to EPA that is not only consistent with the environmental mandate of the Clean Air Act, but would also protect the independents' ability to compete. Under this proposal, independent importers and blenders would be assigned an "average refiner baseline," rather than the statutory baseline. This average refiner baseline would be derived from data from domestic refiners in the "Petroleum Administration for Defense Districts I-IV," which is the region east of the Rocky Mountains. this is the market in which the independent importers and blenders compete.

While we remain committed to achieving the goals of the Clean Air Act, we do not feel that the EPA's RFG program should unfairly undermine the competitive viability of independent importers and blenders or threaten the adequate supply of competitively-priced RFG to the consumers of New England.

Sincerely,

Edward J. Markey, John Joseph Moakley, Martin Meehan, Richard E. Neal, Peter G. Torkildsen, Gerry E. Studds, Joseph P. Kennedy II, John W. Olver, Peter I. Blute, and Barney Frank.

Mr. MARKEY. It seems to me that until foreign and domestic RFG can be treated equally, that I would urge that imported RFG be treated at least in a fairer and more equitable manner. That would be a tremendous benefit to consumers and independent fuel suppliers in the northeast without undermining ambient air quality and goals of the Clean Air Act.

I thank the gentleman.

Mr. SHARP. We thank the gentleman.

We are now very pleased to have our next panel of witnesses from the administration. We have Mr. Jack Riggs, the Principal Deputy Assistant Secretary for the Office of—with the Office of Policy, representing the Department of Energy; and Mr. Dick Wilson, the Deputy Assistant Administrator for Air and Radiation, representing the Environmental Protection Agency.

Gentleman, you are both very familiar with our processes. Mr. Riggs served on this side of the desk for—many years ago, before that. And we will certainly make your written statements a part of our printed record and would welcome your oral summary at this point.

Mr. Riggs, we are very pleased to hear from you.

STATEMENTS OF JOHN A. RIGGS, PRINCIPAL DEPUTY ASSISTANT SECRETARY, OFFICE OF POLICY, DEPARTMENT OF ENERGY; AND RICHARD D. WILSON, DEPUTY ASSISTANT ADMINISTRATOR FOR AIR AND RADIATION, ENVIRONMENTAL PROTECTION AGENCY

Mr. RIGGS. Thank you, Mr. Chairman. I will ask that the written statement be made a part of the record and summarize briefly.

The reformulated gasoline rule is an important part of the strategy for achieving the goals of air quality, and particularly reducing smog and toxic air pollutants. Before we discuss the problems and the costs of implementing that rule, I think we have to acknowledge that there will be substantial benefits. We should not dismiss those. We will have a 15 percent reduction in VOC's and air toxics in Phase One, and a 25 percent reduction in Phase Two; also some slight energy security gains because of the oxygenate that will replace petroleum products.

Those are important gains, and when we look at the costs and the potential disruptions, we should realize that was a decision made by Congress, and I think most of you would probably still think it was a right decision. It is probably, as your committee's memo pointed out, the most significant change in the downstream oil industry since decontrol.

And there will be costs, there will be frictions, there will be administrative difficulties, there will be winners and losers; and we can't eliminate all of them. Our goal, though, is to minimize those within the administration, working with EPA and with the industry.

We are trying to work with EPA for greater flexibility in the rules. For example, in one important instance, the question of tank turning, there was a proposal that the tanks would have to be completely drained and then completely refilled, which would have limited even more stringently the availability of tankage in the system; and created even bigger logistical bottlenecks. It is my understanding that EPA has now decided that this requirement will be made much more flexible.

Our other goal in this effort to minimize the costs and the frictions in the system is to quantify the capacity and assess the readiness of the industry as we move towards December 1.

Our conclusion, in sum, is that we expect the implementation to be successful. We believe that there will be small, if any, price increases above the 5 to 7 cents production cost increases, and possibly another 1 to 2 cents if MTBE costs remain high.

But there will be a very tight distribution system, and it is possible that spot shortages and temporary price hikes will occur. It is possible that there will be a price impact of reduced competition as a result both of the vote on Venezuela, and also the reluctance of some independent importers to accept the burden of testing and liability. And we believe that with the tight system there will be less ability to compensate within the system for unexpected events, such as refinery outages, transportation difficulties and so on.

I hasten to add that this is just what we believe is the most likely scenario. It is not the only plausible scenario, and I believe you will hear from other panelists later today who will give you a slightly more pessimistic view of what might happen. We cannot be certain that they are wrong and that we are right. I think you should listen carefully to all of our testimony, and you will hear a lot of "mays" and "likelys" and "probables," and not very many "wills" and "definites" and "certains."

In our assessment of the system's capacity, we have focused primarily on the northeast because, as you and as Congressman Kennedy have noted, they are more heavily dependent on imports and have larger concentrations of reformulated gasoline. We believe that the demand for reformulated gasoline in the northeast will be 1.3 million barrels per day, and we believe the supply will be, next year, from the northeast refineries, from 630,000 to 720,000 barrels per day; from importers, 160,000 to 190,000 barrels per day, and I would note that that is between 82 and 97 percent of the import levels in 1993. It will be a reduction, but not a large one. And, finally, from Gulf Coast refiners, we believe there will be 420,000 to 540,000 barrels per day.

Two points I would make about these numbers: First, although total imports are not down much, more of that importing will be done by the integrated refiners and less by independents.

Second, the shift from imports to production in refineries on the Gulf Coast will mean that there is an extra burden on the transportation system, pipelines and, potentially, Jones Act tankers coming up from the Gulf Coast. And that could well add some costs in the system.

And, finally, our confidence that supplies will be available overall does not mean that we are confident that every day in every locality for every type of gasoline there will be an adequate supply. It is possible, as a result of short-term and localized shortages, that we could have more volatile retail prices than usual and the size of margins up and down the system could shift.

In the long term, as industry gains experience, we believe that the logistical system will be augmented and that we will have a more comfortable cushion against these kinds of spikes or shortages. Between now and December 1, and after, we will continue to work with EPA and with the industry to try and make sure that we can put as much flexibility in the system and keep the costs as low as possible.

Thank you, Mr. Chairman.

[The prepared statement of John A. Riggs follows:]

STATEMENT OF JOHN A. RIGGS, PRINCIPAL DEPUTY ASSISTANT SECRETARY, OFFICE OF POLICY, U.S. DEPARTMENT OF ENERGY

I am pleased to be here to discuss the implementation of the reformulated gasoline program. My testimony describes the Department of Energy's (DOE's) activities to help ensure the implementation of a successful reformulated gasoline program, with as few start up difficulties as possible and specifically addresses questions raised in Chairman Sharp's letter of invitation to the Department.

The reformulated gasoline program is a very important component of the Clean Air Act strategy for achieving air quality standards for ozone and for reducing toxic pollutants. The program sets performance and other specifications for reformulated gasoline to ensure that emissions are substantially reduced in certain ozone nonattainment areas. It also sets standards for conventional gasoline, sold outside of those areas, to ensure that it does not become dirtier than it was in 1990 as a result of refiners' efforts to make reformulated gasoline cleaner. These conventional gasoline regulations are referred to as "anti-dumping" requirements.

The Environmental Protection Agency's (EPA) reformulated gasoline program has three stages. During 1995-1997, refiners must meet vapor pressure, benzene and oxygenate standards for reformulated gasoline. These standards are designed to achieve a 15 percent reduction in ozone forming volatile organic compound (VOC) emissions and a 15 percent reduction in toxic emissions, relative to emission levels from baseline vehicles (1990 model year vehicles) using a specified baseline fuel having 1990 levels of key gasoline components. To achieve overall 1990 average gasoline quality, the regulations require that domestic refiners establish individual baselines for sulfur, olefins and T90 using actual 1990 data. Foreign refiners must use the baseline identified in the Clean Air Act in establishing their baselines.

Beginning in 1998, standards are set for all relevant gasoline constituents. However, instead of requiring that each gasoline component meet a specified level, a "complex model" is provided that estimates the net effect of all gasoline constituents. Refiners therefore gain the flexibility to meet the overall performance requirement in different ways as measured by the complex model. This complex model was included in the December 15, 1993, reformulated gasoline rule and can be used by refiners, if they choose, in lieu of the specific vapor pressure and baseline requirements during 1995-1997.

In 2000, the severity of the standards increase but the complex model is still used to measure gasoline compliance. In 2000, reformulated gasoline will have more than 25 percent lower VOC and toxic emissions and NO_x emissions will be 5 to 7 percent lower. These reductions in smog forming emissions are critical to achievement of air quality standards in the Northeast and other urban areas in which reformulated gasoline will be required. The reformulated gasoline program will also increase U.S. energy security by reducing U.S. oil imports by about 200,000 barrels per day due to the use of oxygenates derived from natural gas or renewable resources.

The reformulated gasoline and anti-dumping regulations will require changes in equipment and operating procedures throughout the gasoline production and distribution system. Additional refinery equipment will be needed to reduce benzene and vapor pressure. Because the reformulated gasoline and anti-dumping regulations require that several types of gasoline be stored and tested separately, additional storage tanks and record keeping will be required. Gasoline transfers among refiners, pipelines, terminals, and wholesale and retail distributors must be tracked with product testing to ensure that gasoline quality standards are maintained from refinery to consumer.

Two changes occurred recently that will affect the reformulated gasoline program. On September 13, the U.S. Circuit Court of Appeals for the District of Columbia issued a stay of the Renewable Oxygenate Standard (ROS) requirement pending court review. The resulting delay of the ROS should not cause any implementation problems for the reformulated gasoline program. This delay will mean that refiners will not be required, at least initially, to ensure that 15 percent of the oxygenate required in reformulated gasoline be derived from renewable oxygenates. Of course, if the ROS is upheld, refiners would be required to comply at some time in the future.

On September 12, the day before that ruling the House of Representatives voted to concur with the Senate in restricting EPA's appropriation in such a way that EPA could not implement a proposed rule on reformulated gasoline. The rule would have provided an opportunity for foreign refiners, if they could provide adequate data, to establish individual baselines similar to those allowed for domestic refiners to measure reformulated gasoline compliance. The primary foreign refiner affected by this action is Venezuela. We estimate that their 1995 reformulated gasoline imports could be as much as 40,000 to 60,000 barrels per day lower than had the baseline rule been finalized as proposed. This potential loss of imports has two implications. First, they must be made up by supply from another refiner. We do not believe that this will be a problem. However, the source of this supply could further strain a distribution system that we expect will already be severely axed. For example, a Gulf Coast refiner must acquire either pipeline shipment or shipment by "Jones Act" product tankers. We are less certain that this will not be a problem, although we have reason to believe that some incremental pipeline capacity is available and that there are additional "clean product" Jones Act tankers available to ship 40,000 to 60,000 barrels per day of gasoline from the Gulf Coast.

As we move closer to January 1, there has been increasing concern about the readiness of refiners, pipelines, terminals, wholesalers and retailers to provide an adequate supply of reformulated gasoline at a reasonable price. The Department shared these concerns and has actively worked with the Environmental Protection Agency (EPA) to identify potential problems and develop strategies to make them less likely or their consequences less severe.

More specifically, DOE has:

—been an active participant in the administration's reformulated gasoline task force which is a government-industry partnership to solve a variety of potential implementation problems;

—quantified industry's capacity to produce, ship and import reformulated gasoline to meet anticipated demand;

—consulted with refiners, pipelines and terminals to assess their state of readiness for the January 1 requirements; and

—worked closely with EPA staff to encourage streamlining of enforcement procedures to eliminate implementation bottlenecks.

Our consultations with industry and EPA have already resulted in improvements to compliance procedures that will effectively increase the capacity of fuel storage tanks. The EPA's procedures involved requirements that tanks be completely filled with reformulated gasoline before they could be emptied. By providing more accurate information on the volume of product contained in tank "heels" and reviewing the full consequences of this requirement, we determined that the "full tank" requirement would have caused significant logistical bottlenecks while not providing any environmental benefit. On September 26, 1994, EPA clarified these requirements to make clear that fuel storage tanks will not have to be completely filled.

I have provided the subcommittee a recent draft report prepared by DOE's Office of Policy that documents our efforts to date to quantify likely reformulated gasoline supply and demand and to assess the industry's state of readiness to comply with the reformulated gasoline requirements. This draft report is currently being reviewed by outside experts and will not be finalized until mid-October. The Energy Information Administration (EIA) soon should be providing a report to Chairman Dingell in response to his request that addresses similar issues.

I will summarize some of the key conclusions from the draft Policy Office report as they relate to the chairman's questions concerning the effects of the rule on the Nation's gasoline distribution system. The Policy Office's analytic and data collection efforts have focused on the Northeast because it contains the largest reformulated gasoline market, has the most complex distribution system, is most dependent on gasoline supplies from outside of the region and is most dependent on gasoline imports.

We estimate that, in 1995, the Northeast will use 1.3 million barrels per day of reformulated gasoline. The Northeast has three important sources of gasoline: gasoline produced within the Northeast, gasoline imports, and gasoline produced by Gulf Coast refiners. We estimate that, in 1995, Northeast refineries will produce 630,000 to 720,000 barrels per day, or 48 percent to 55 percent of expected Northeast reformulated gasoline demand. Importers have plans to import 160,000 to 190,000 barrels per day of reformulated gasoline, or 12 percent to 15 percent of Northeast demand. (This represents 82 percent to 97 percent of 1993 Northeast imports.) We estimate that Gulf coast refiners (Petroleum Administration for Defense District (PADD III) have plans and the capacity to ship over 420,000 to 540,000 barrels per day of reformulated gasoline to the Northeast (or over 32 percent to 42 percent of Northeast demand). Based on this assessment, we believe that refiners are capable of producing enough reformulated gasoline to meet Northeast demand for the Winter reformulated gasoline season.

Based on our discussions with refiners, pipeline operators and terminal operators, we have concluded that the pipelines and terminals serving the Northeast are in varying states of preparedness for the program and that more clarification of the rules and additional preparation on the part of the various players will be required before these key elements of the gasoline logistics system are completely prepared. When this has occurred, we believe that the logistical system does have the physical capacity to handle the anticipated reformulated gasoline demand notwithstanding a reduction in the effective capacity of this system due to operational requirements to segregate and test products. However, because this logistical system will be operating close to its maximum operational capacity, there will be less excess capacity to handle unanticipated events such as exceptionally cold weather or the loss of a terminal, pipeline or Northeast refinery.

These conclusions may be applied to some extent to reformulated gasoline markets outside of the Northeast. However there are some important differences. California, another large reformulated gasoline market, is operating under both Federal and State requirements. These State requirements significantly change the way the California program operates compared to the Federal program. The California rules take effect in March of 1996, at which point most Federal enforcement would be waived in favor of California's own procedures. Other reformulated gasoline areas (Chicago/Milwaukee, Houston/Dallas-Ft. Worth and Louisville) are not dependent on imports and are less dependent on long distance pipeline transport of reformulated gasoline and have greater capacity to produce reformulated gasoline within their regions. However, it should also be pointed out that these markets are in closer proximity to areas that will use conventional gasoline; this may also strain the gasoline logistical system as terminals supply both reformulated and conventional gasoline to different parts of their market areas, since additional tankage will be required to segregate and store each type of gasoline.

These conclusions are consistent with the results of a National Petroleum Council study published in August 1993, which concluded that the refining industry would be capable of providing reformulated gasoline and complying with gasoline anti-dumping rules and that the distribution system was capable of efficiently transporting product to their markets. This study assumed flexible and workable compliance requirements and provision of adequate lead time for industry preparation. We believe that workable compliance requirements and adequate lead time have been provided and that any remaining uncertainties will be soon resolved.

While we expect a successful reformulated program, unforeseen events could stress the logistical system, particularly in the Northeast, resulting in spot shortages and higher prices. We expect, on the basis of the National Petroleum Council study and past DOE analyses, that the cost of reformulated gasoline will be, on average, about 5 to 7 cents per gallon more expensive than conventional gasoline between 1995 and 1999. (In 2000, when performance standards increase, the cost of reformulated gasoline will increase). This cost can vary depending on certain factors outside the control of refineries. For example, if methanol and MTBE prices continue to be abnormally high, this cost differential could increase by 1 to 2 cents per gallon. Price increases for reformulated gasoline can result from other factors such as an insufficient supply of product to a market caused by losses of logistical capacity or loss of a Northeast refinery. These events and resulting price increases are impossible to predict. However, we are working with EPA and industry to define possible shortage situations, such as a loss of terminal capacity, estimate their likely impact and develop government responses that would mitigate the adverse impacts of these events. As the motor fuel industry gains experience with the reformulated gasoline program we expect that the logistical system will be augmented to provide a more comfortable margin of excess capacity.

I want to emphasize that, despite the efforts by the administration to implement this program as efficiently as possible, and the substantial efforts by the gasoline refining and distribution industry, some spot shortages and associated price increases could occur. We expect that the system will be able to adjust to any such problems quickly. Some short term price increases which provide temporary incentives to both consumers and fuel suppliers may be a necessary and unavoidable part of this adjustment process. Certainly we expect EPA to do all in its legal authority to be flexible, and DOE will provide as much advance information as possible to alert all affected individuals. The draft report that I have provided represents the Department's most recent efforts. The Department will provide the final version to this subcommittee and highlight any changes that may result from the current peer review of this draft. We intend to continue providing similar information as the program progresses, especially as the summer ozone season approaches, at which time gasoline volatility controls will increase program complexity.

I thank the subcommittee for this opportunity to testify and would be happy to answer any questions.

Mr. SHARP. Thank you.

Mr. Wilson.

STATEMENT OF RICHARD D. WILSON

Mr. WILSON. Thank you, Mr. Chairman. It is a pleasure to be here this morning. And, Mr. Chairman, we thank you, over the years, for your interest in these issues and support of these programs.

As you know, the Clean Air Act Amendments of 1990 established some ambitious goals for the country in cleaning the air in our major cities, and among the mandates were specific requirements to further clean up fuels in the country. As you know, the cleanup of fuel started in the 1970's with the mandate of the production of unleaded gasoline; then lead phasedown; then beginning in 1989, reduction in gasoline volatility levels. EPA's experience with fuel control programs demonstrates that they can be very successful.

Two of the new clean fuel programs have already been successfully implemented—the winter oxygenated fuels program, and most recently, the reduction of sulfur levels in on-highway diesel fuel. The winter oxygenated fuels programs have been implemented in 32 urban areas that have carbon monoxide air pollution problems. These programs provided over an 80 percent reduction in carbon monoxide violations during their first 2 years, demonstrating how successful these programs can be.

For each of these new requirements, the fuels industry has done a tremendous job in complying with these cost-effective and environmentally important programs. The next clean fuel program to be implemented is the reformulated gasoline program, which is the subject of this hearing; and it is one of the most important ozone and air toxics programs in the 1990 Clean Air Act Amendments. This one program will provide areas with about 30 percent of the emission reductions required by 1996.

The reformulated gasoline program is required in the nine cities in the country with the worst levels of ozone pollution, and Governors may opt into the reform program for any other ozone nonattainment area. We estimate that current levels of—that with current levels of opt-ins, about one-third of overall gasoline consumption in the United States will be reformulated in 1990.

We know that the implementation of the reformulated gasoline program will be the toughest environmental challenge that the fuels industry has ever faced. EPA has worked closely with industry and other affected parties since January 1991, when the successful regulatory negotiation began which resulted in an historic agreement of principles in August of 1991.

This close consultation with all interested parties continues today.

Because of the complicated nature of the regulations, EPA solicited formal written questions from industry in the spring of this year, and a 200-page question-and-answer document was issued on July 1, 1994. Each week, we have been issuing weekly updates on our electronic bulletin board to issue the timely and instantaneous dissemination of information to all parties.

We established an "RFG Implementation Task Force" to provide a forum for all affected parties to discuss and resolve issues associated with the implementation of this program. And the members of the task force represent petroleum refiners, gasoline marketers, pipeline and terminal operators, the automotive and off-road vehicle industry, the oxygenates industry, environmental and consumer organizations, State governments, and obviously, DOE and EPA.

The task force is addressing implementation issues through two work groups. The supply and distribution work group is exploring issues associated with the availability and logistics of the delivery of reformulated gasoline and conventional gasoline; the public information and education work group is identifying information and education needs and is coordinating preparation design and dissemination of materials aimed at reaching the general public, retail gasoline stations and auto mechanics in those areas that will receive reformulated gasoline.

Based on conversations with DOE, EPA does not believe that a lack of "supply" is the primary concern associated with implementation of the reformulated gasoline program. Rather, we believe that distribution logistics will be the key element in meeting the demands of the marketplace under the new regulatory structure.

As discussed earlier, EPA is taking many steps to ensure as smooth a transition as possible. DOE and EIA have identified information that indicates the industry is adequately prepared for the transition. For example, tank turnaround and maintenance is ahead of schedule and tanks that were storing distillate are being changed to reformulated gasoline usage. Industry has already begun production and shipment of reformulated gasoline.

Nevertheless, EPA is setting up a process with State energy agencies, DOE and others to identify and quickly address any supply problems or other emergencies, should they arise as the reformulated gasoline program is being implemented.

EPA estimates reformulated gasoline will cost about 3 to 5 cents per gallon more than conventional. Reformulated gasoline is a very cost-effective strategy when compared to other air pollution control approaches for our polluted cities.

In sum, EPA has been proactive in working as partners with industry, consumer and environmental groups, State and other government agencies, to continue to clarify the regulations and to provide forums where exclusion solutions to problems can be developed to ensure a smooth implementation of this important clean air program. We are working hard to ensure that the reformulated gasoline program will be another successful clean fuels program as judged by its smooth implementation, its large environmental benefits, and its broad public support.

Thank you very much.

[The prepared statement of Richard D. Wilson follows:]

Statement of Richard D. Wilson, Deputy Assistant Administrator for Air and Radiation, U.S. Environmental Protection Agency

Thank you, Mr. Chairman and Members of the Subcommittee, for the opportunity to appear here this morning.

The Clean Air Act Amendments of 1990 (Act) set ambitious goals for achieving clean air across the country. To accomplish these goals, the Act established numerous control programs covering both stationary and mobile sources. In the vehicle area, the Act: mandated new standards to control emissions from automobiles and trucks; required better inspection/maintenance programs for in use vehicles; and, provided the U.S. Environmental Protection Agency (EPA) with authority to regulate emissions from nonroad engines for the first time.

In addition to these vehicle controls, the Act also mandated additional improvements in fuels. As you know, the clean up of fuels started in the 1970's with the mandate of the production of unleaded gasoline, then, lead phasedown, and beginning in 1989, reductions in gasoline volatility levels. EPA's experience with fuel control programs demonstrates that they can be very successful.

Two of the new clean fuel programs have already been implemented: the winter oxygenated fuels program, and, most recently, the reduction of sulfur levels in on-highway diesel fuel. The winter oxygenated fuels programs have been implemented in 32 urban areas that have carbon-monoxide air pollution problems. These programs provided over 80 percent reduction in carbon monoxide violations during their first 2 years. The cleaner diesel fuel is helping to reduce harmful emissions of particulate matter from diesel trucks and buses.

For each of these new requirements, the fuels industry has done a tremendous job in complying with these cost-effective, and environmentally-important programs. The next clean fuel program to be implemented is the reformulated gasoline program, which is the subject of this hearing.

The final reformulated gasoline regulations were signed by Administrator Browner on December 15, 1993. This program is one of the most important ozone and air toxics programs in the 1990 Clean Air Act Amendments. This one program will provide areas with about 30 percent of the emissions reductions required by 1996. The first phase of the program begins in January 1995, and will provide annual reductions of up to 140,000 tons of volatile organic compound (or VOC) emissions; the second phase will begin in January 2000 and will provide additional VOC reductions in excess of 40,000 tons per year and oxides of nitrogen (NO_x) reductions in excess of 20,000 tons per year. Vehicle toxic emissions will be reduced by an average of over 16 percent in Phase I and over 21 percent in Phase II.

The reformulated gasoline program is required in the nine cities with the worst levels of ozone pollution. The Clean Air Act also provides that the Governor of a State may opt into the reform program for any other ozone nonattainment area. Currently, the Governors of all States in the Northeast United States, from Virginia through Maine, have opted into the reformulated gasoline program for the vast majority of ozone in nonattainment areas in their States. In addition, the Governor of Wisconsin has opted in the ozone nonattainment portions of Wisconsin, and the Governors of Kentucky and Texas have opted in for some, but not all, ozone nonattainment areas in their States. We estimate that with the current levels of opt-ins, approximately one-third of overall U.S. gasoline consumption will be reformulated in 1995.

This program also requires that each refiner and importer keep non-reformulated gasoline (conventional gasoline) at least as clean as the gasoline they produced or imported in 1990, to prevent refiners from "dumping" into conventional gasoline the dirty gasoline components remaining from the reformulated gasoline refining process. These are the "anti-dumping" requirements.

In addition to its environmental benefits, the reformulated gasoline program, will help to diversify the energy used by the transportation sector from a current, almost exclusive, reliance on petroleum to include natural gas as well as a larger and more diverse collection of renewable energy sources.

On June 30, 1994, EPA issued final regulations establishing a requirement for the use of renewable oxygenates in reformulated gasoline. For the first year, the regulations require that 15 percent of the oxygen used in the reformulated gasoline program come from renewable sources. This level increases to 30 percent for the second and subsequent years of the program. In order to provide maximum flexibility to the refining industry, the renewable oxygenate requirement can be met through a calendar year averaging program. Credits can also be averaged among urban areas. EPA believes that the renewable oxygenate provision is an important part of the reformulated gasoline program. Not only will renewable oxygenates help assure cleaner air they will also promote energy and economic security.

Shortly after issuance of the renewable oxygenate regulations, the American Petroleum Institute and the National Petroleum Refiners Association petitioned for review of the regulations with the U.S. Court of Appeals for the D.C. Circuit. On September 13, 1994, the Court granted petitioners' request for a stay of the renewable oxygenate regulations pending judicial review. The Court denied petitioners' request for summary reversal and ordered an expedited briefing schedule. This stay does not affect the rest of the reformulated gasoline program.

Another reformulated gasoline issue in which we have been involved over the past few months concerns the establishment of individual refinery baselines for foreign refineries. Most recently, EPA listed a proposed rule on May 2, 1994; a public hearing on that proposal was on May 23, 1994. Under the proposal, importers meeting stringent limitations would be allowed to use their own 1990 gasoline specifications as a baseline to demonstrate compliance with the reformulated gasoline standards. However, most recently Congress passed the VA, HUD and Independent Agencies appropriations bill for fiscal year 1995, and included a prohibition on EPA use of appropriated funds for the promulgation and implementation of the proposed foreign refiner baseline rule.

We know that implementation of the reformulated gasoline program will be the toughest environmental challenge that the fuels industry has ever faced. EPA has worked closely with industry and other affected parties since January 1991 when the successful regulatory negotiation began which resulted in an historic agreement of principles in August 1991.

This close consultation with all interested parties continues today. EPA has been working hard with fuel providers, the Department of Energy (DOE), and others to ensure the smooth implementation of this important clean air program. I would like to describe our efforts in more detail.

We have had frequent meetings with industry representatives to resolve implementation issues and are answering hundreds of inquiries weekly regarding interpretation of the requirements. Several public workshops have also been held.

Because of the complicated nature of the regulations, EPA solicited formal written questions from industry in the Spring of this year. A 200-page Question and Answer document was issued on July 1, 1994. This document was posted on EPA's electronic bulletin board for easy access. Since Monday, August 29, EPA has been providing weekly updates on its electronic bulletin board to ensure the timely and instantaneous dissemination of information to all interested parties. The first posting provided an additional 50 pages of Questions and Answers. Each weekly posting will include "RFG Update" consisting of announcements of meetings/workshops and timely Information regarding implementation status.

EPA established an "RFG Implementation Taskforce." The purpose of the Taskforce is to provide a forum for all affected parties to discuss and resolve issues associated with the implementation of the program. The Taskforce is meeting every 4 to 6 weeks through the end of this year. The members of the Taskforce represent: petroleum refiners, gasoline marketers, pipeline and terminal operators, the automotive and off-road vehicle industry, the oxygenates industry, environmental and consumer organizations, State governments, DOE and EPA.

The Taskforce is addressing implementation issues primarily through two workgroups. The supply and distribution workgroup is exploring issues associated with the availability and logistics of the delivery of reformulated gasoline and conventional gasoline. The workgroup met and identified a number of issues on July 22, 1994. Work has begun on these issues. A second meeting was held on September 13, 1994.

The public information and education workgroup is identifying information and education needs and is coordinating, preparation, design and dissemination of materials. Working with consumer, environmental and industry groups, EPA is implementing a broad information campaign aimed at reaching the general public, retail gasoline stations and auto mechanics in those areas that will receive reformulated gasoline. These information efforts should help assure that we maintain broad public support.

EPA is active in many other areas to ensure a smooth transition to reformulated gasoline. For example, we are implementing an electronic data interchange system so the reports required under the reformulated gasoline rules can be transmitted electronically to EPA. This will be one of the first systems of its kind in EPA. We are currently reviewing baselines and in-line blending petitions from refiners and marketers and have begun to issue approvals in these areas.

DOE is here today to testify, and we look to them to provide the details regarding reformulated gasoline supply in demand. We have been working closely and consulting regularly with DOE and the Energy Information Administration (EIA).

Based on conversations with DOE, EPA does not believe that a lack of "supply" is the primary concern associated with the implementation of the reformulated gasoline program. Rather, we believe that distribution logistics will be the key element in meeting the demands of the marketplace under the new regulatory structure.

As I discussed above, EPA is taking many steps to insure as smooth a transition as, possible. DOE and EIA have identified information that indicates that the industry is adequately prepared for the transition. For example, tank turnaround and maintenance is ahead of schedule and tanks that were storing distillate are being changed to reformulated gasoline usage. Industry has already begun production and shipment of reformulated gasoline.

Nevertheless, EPA is setting up a process with State energy agencies, DOE, and others to identify and quickly address any supply problems or other emergencies should they arise as the reformulated gasoline program is being implemented.

EPA estimates the cost of the reformulated gasoline rule as follows. Phase I reformulated gasoline, which is in place, from 1995 to 2000, will cost from 3 to 5 cents/gallon more than conventional. Over PHASE I reformulated gasoline, which begins in 2000, should cost 1.2 cents/gallon OVER PHASE I reformulated gasoline in the summer only and should have no additional cost for the winter fuel. Reformulated gasoline is very cost-effective when compared to other air pollution control strategies for our polluted cities.

In summary, EPA has been proactive in working as partners with industry, consumer and environmental group, States and other government agencies to continue to clarify the regulations and to provide forums where solutions to problems can be developed to insure a smooth implementation of this important clean air program. We are working hard to ensure that the reformulated gasoline program will be another successful fuels program as judged by its smooth implementation, its large environmental benefits, and its broad public support.

Thank you for the opportunity to discuss these matters with you. I would be happy to answer any questions you, may have.

Mr. SHARP. Thank you very much.

I think before we start our questions, maybe we should take a break for the vote that is already under way on the House of Representatives Floor. So we will try to take about a 10-minute break, and then we will question our witnesses.

The subcommittee will stand in recess.

[Brief recess.]

Mr. SHARP. The subcommittee will please come to order. As I suspect everyone knows, we ended up having a second unexpected vote on the House Floor, so our little recess became a large recess, complete abscess after a while. But I——

Mr. RIGGS. Mr. Chairman, somebody suggested during the break that if I don't hold you to your 10 minutes, will you not hold me to my 5 to 7 cents?

Mr. SHARP. Well, as you know, consistency in our operations is not always the highest principle. But let me turn very quickly to a couple of questions.

First of all, I appreciate the testimony of both of you, helping to remind us of what the essential goal that we are dealing with here is all about; and that is, the previous administration and the U.S. Congress overwhelmingly supported the idea that we could make significant environmental gains by cleaner fuels program and that virtually—most people agreed that it was a cost-effective way to go relative to other alternatives.

There obviously were intense fights over what should be the nature of reformulated gasoline and what alternative fuel should be promoted, that occurred during the Clean Air Act, but I think in the end most people agreed that cleaning up the fuel, which is the goal before us and the goal of this hearing, is not to undermine those fundamental goals, but to try to make sure that there is as smooth a transition here in implementation of the program as is possible.

And we have had another fight over it, obviously, a little more than a week ago, in the House of Representatives, and before that, the Senate on the foreign oil component to this. But one of the things I wanted to ask Mr. Wilson in particular is, to what degree, if there are problems that show up on—as you indicated, the general supply availability is presumed by at least the EPA to be not likely to be a difficulty, that generally it will be there, but as we all know, the fuel has to be where it is needed or there can be at least temporary market problems that irritate consumers and complicate life and complicate politics in this country extensively.

We learned in natural gas that there really was never a supply problem with natural gas. There was an enormous logistical distribution problem, very much created by the regulatory environment which we had failed to change over the years, and that created some very serious problems.

I am not trying to make an analogy here; it is just that we know that those small logistical things can be very important, at least to some citizens. And I wondered to what degree the EPA has any flexibility to do anything, or is it too late by the time those show up in any of these markets?

Mr. WILSON. We had, Mr. Chairman, a dry run, if you will, last winter, when the new diesel sulfur rules went into effect. And in large part because of the flooding in the Midwest, we did find some spot problems. And what we were able to do is identify them quickly, make matches between problems with distributors who couldn't get low-sulfur oil or diesel fuel and suppliers, who we knew had some; and we exercised a little enforcement discretion for a few days until we were able to match those up, and I think relieved all the pressure points as quickly as we were able to identify them. And we would obviously be planning a similar approach as we and DOE and State energy agencies monitor the situation as the reform program starts out.

Mr. SHARP. Well, I think it is very important that you make those efforts, as you had already alluded to in your testimony. Do you see this as simply similar, or is the volume here so much greater that it is going to take a great deal more attention to this?

Mr. WILSON. Well, obviously, the volume is greater, it is a bigger deal; and so, in a sense, it was good we had a practice run with the little—smaller program. But of course, it is a broader program and we are going to have to pay a lot of attention to it.

Mr. SHARP. Well, we heard testimony already this morning—we will later, about a proposal to urge the EPA to alter its rule again on reformulated gas in order to make the baseline a regional one for the foreign refineries, rather than a national one, the theory being that the national one turns out to be tougher environmentally because it is weighed in with California and some of the cleaner refineries with some of the ones that are dirtier. That is a very crude category, but it is—and so therefore it would be both more equitable and smarter from a supply point of view to do it on a regional basis.

Do those opportunities still procedurally exist for the EPA to consider and reconsider? Are there any plans at this point to?

Mr. WILSON. Well, we are still looking at that issue, Mr. Chairman. The suggestion has been made. As you know, we are just now getting in and still sorting through the actual baselines for the domestic refiners. Frankly, at the moment, it doesn't look like the differences are very big. But that is still an issue we are working through, and obviously, if we needed to, we could—we would have to go through a rulemaking process, but it is an open issue still with us.

Mr. SHARP. Let me ask Mr. Riggs, to what extent is the Department of Energy planning to monitor this, or does it essentially depend upon the structure that EPA has set up in its enforcement mechanism to figure out if there are any bottlenecks?

Mr. RIGGS. Are you speaking more broadly now or about this proposal?

Mr. SHARP. Not about the proposal, about the implementation for the next couple months.

Mr. RIGGS. We are trying to independently do some monitoring, and as I indicated in my testimony, we focused more heavily on the northeast. We will continue to do so.

Obviously, information we gain is immediately shared with EPA, and we consult with them regularly; but although they have the responsibility for implementing the rule, we feel a responsibility to monitor the markets and see where we can be helpful.

Mr. SHARP. Let me recognize my colleague from Florida, Mr. Bilirakis, for questions.

Mr. BILIRAKIS. Thank you, Mr. Chairman.

Mr. Riggs, you stated that there possibly might be regional or local shortages and accompanying price spikes as the RFG rule is implemented. You used the word "possible." In my question, I intended to use the word "likely."

What are we closer to? You say "possible." Is it "likely" that there would be? Is it "probable" that there would be? Or is it really "possible" which means "not as likely" to me.

Mr. RIGGS. I should have brought my dictionary with me, sir. I think all we can say is that with such a tight distribution system and with such pressures on the storage capacity and with the numbers of types of gasoline that we will use, we are not able to have any certainty that there will not be short-term, localized shortages or price spikes. Whether that is "possible" or "likely" or——

Mr. BILIRAKIS. Well, I think, though, Jack, that it is important because—you know, you also say that your DOE is working on plans to respond to those "possible" or "probable" or "likely" shortages. And I guess it is important that we know what those plans are. And if you don't have a plan yet, do you plan on formulating one before or after the shortages occur? Are we going to be typical Americans where we react rather than plan? And that is why it is so significant to know what the thinking is, whether we are talking about "possible" or something a little more "likely."

Mr. RIGGS. That is a fair question, and again, while EPA has the responsibility and perhaps the best tools to respond to that sort of a problem through enforcement mechanisms, I think I would say that it is "likely" that there will be some events, however small, that will cause us concerns. If they are very short-term and very localized and the price spike is a fairly small one, then I suspect that the proper reaction is to not act, but to let the market solve it on its own. But we will be looking for the less likely but more damaging, serious shortage or longer shortage, so that we could work with EPA to find out if some sort of a change in enforcement could——

Mr. BILIRAKIS. Any comment?

Mr. WILSON. Well, obviously, our first priority is to make sure this program is accepted by the American public as a good clean air program; and we want to make sure that we quickly solve any problems that come up.

I agree with what Mr. Riggs said, it would be amazing if we were able to implement a program this complicated without having a few glitches along the way. We hope they are small and of short duration, and we will deal with them. Obviously, it is a little tricky; you have to—you have to be careful. There are a lot of marketplace issues involved, so you don't want to create a competitive advantage for somebody who just didn't bother to get ready to deal with the problem.

So it is a little tricky to deal with. But, obviously, our first priority is to make sure there is an ample supply for the public, of gasoline.

Mr. BILIRAKIS. Well, I just sort of get the impression, with all due respect to both of you, that there is a casual attitude, you know, towards it all. There are a lot of reasons why I don't think we should be very casual about it. One is, as I mentioned in my opening remarks, the public support, if you will, for the Clean Air Act. It could certainly destroy that if it isn't maybe halfway there already.

Mr. WILSON. Congressman, if we are giving you the impression we are casual about it, we are not. It is one of our top priorities, to make sure this program goes out smoothly, for all the reasons you just mentioned. We are using a lot of resources to stay on top of it, to work with everybody involved in the process, to solve problems as quickly as they crop up.

We have a good intelligence network, I think, set up; and on top of all of it, we are going to be monitoring for any problems as the program goes in, and solving them as fast as we find them.

So we are certainly not casual about it, for all the reasons you laid out.

Mr. BILIRAKIS. All right. Well, on behalf really of the public in general, certainly the Congress, and whoever the new chairman of this committee is going to be—it could very well be myself, but—I thought I had to say that here. But anyhow, I think it is important, though, that you work with us, you know, as time goes on, rather than just sort of wait to react.

Mr. WILSON. We will.

Mr. BILIRAKIS. And if a shortage seems imminent, do you feel that both of your organizations have the authority to act in advance of the shortage in order to eliminate it or to minimize it? Do you have the authority, do you feel, or do you think you need more authority from the Congress?

And whether you answer that question today or not, it is not really that significant. It is important that you keep that in mind. And if you feel you need further authority from the Congress, you ought to let us know in advance.

All right, Mr. Kennedy talked about the fact that we haven't allowed, as a result of our vote, we are not allowing the foreign refiners to operate on the same environmental standards—I am using his words out of his statement—"on the same environmental standards—that is, off of their 1990 baselines—just as domestic refiners."

Well, now, in practice, to get back to that, in practice, is there adequate documentation? Could we have, in fact, operated off—allowed them to operate off of their 1990 baselines? Do you have an opinion on that?

Mr. WILSON. Well, I guess the best opinion on that is the fact that we did change course and proposed to allow foreign refiners who met relatively strict criteria to use individual—their own baselines. Obviously, the Venezuelan issue was the ripest one. We did look—I mean the information they provided us was sufficient, we believed, and that was the basis for our proposing to change the rule.

Mr. BILIRAKIS. OK. So basically, of course, we are counting strictly on information they would provide us as far as that 1990 baseline is concerned.

Mr. WILSON. Well, that is obviously true of all refiners, although we do have a program to set up to audit those baselines independently, whether it is a domestic or a foreign refiner.

Mr. BILIRAKIS. You know, we are not trusting our own people. We are requiring these measurements of the tanks, et cetera, et cetera. But we are basically saying, we will go ahead and accept your figures?

Mr. WILSON. No, the process would be exactly the same for—under that proposal, the process would have been exactly the same for the domestic.

Mr. BILIRAKIS. In terms of determining baseline, though, basically we would be depending upon their figures?

Mr. WILSON. Well, again, we would dependent upon the—since it is an historic issue, where they were in 1990, we are dependent on the figures of the refinery wherever it is located; and we plan similar auditing techniques whether it is foreign or domestic.

Mr. BILIRAKIS. Well, I know Mr. Kennedy suggested as an alternative that we use the average regional baseline, and he talks about what is it, east of the region of the Rockies and west of the region of the Rockies, and that sort of thing. So even he doesn't have any confidence, I guess, in the domestic 1990 baseline really, he is just saying, use the average, use the average as we are doing, apparently, but split it up, where you have a different one on one side of the Rockies. Any comments on that?

Mr. RIGGS. Well, when the chairman asked that question, I think Mr. Wilson responded that we are were looking at it. Again, it is EPA's responsibility. But the implication behind the suggestion is that the inclusion of cleaner California gasoline in the national average makes it more difficult to meet the average baseline, and therefore, we ought to take a look at it. And whether or not the differences are great enough to make this worthwhile is still under examination.

Mr. BILIRAKIS. OK. Well, there are so many important issues; this is certainly not the least of them all. And you have to continue to coordinate with us, because otherwise we are going to have votes coming out of the woodwork like we did a few days ago on the Floor; and basically, most of the Congress will be uninformed before we have to cast those votes.

Thank you very much.

Mr. SHARP. Thank you. If I might just add a comment, particularly to EPA, that I would really urge you to be sure you are talking with people who have got to implement the oil price control program and the gasoline control program to understand—if you are not already painfully aware of it, you may already be—how extremely difficult it is on a quick basis to make a decision that has any real impact.

I mean, they are formally made, but they don't do anything in the marketplace. That the one extremely positive thing about the pricing system in the market system is how rapidly it can move to fill in a vacuum.

And so I think you want to be very sensitive to—the approach to solving these problems is flexibility, not having to match a supplier and an user. That may work in a few limited circumstances, but the most important thing is to try to get flexibility. And, of course, the whole system has reduced the flexibility, which we understand, and that is the price of the system and that is fine.

So I am just trying not to undermine your confidence on this, but just say simply that that becomes the key.

If the Congress alters the authority, it will be next year because there is a major crisis on our hands. I don't anticipate that; there shouldn't be. But I think one of the best things you can do is be very sensitive at this point, even if it marginally seems to diminish the environment for 1 or 2 months or whatever, to maximize the flexibility of the marketplace to distribute the fuel. Because I think it is better to get the whole thing working than it is to go for as perfect a measurement of the thing at this point.

Mr. WILSON. Couldn't agree more, Mr. Chairman. I think we are in this for the long run. That is what matters.

Mr. SHARP. Great. Well, thank you very much.

If we have further questions, we will call on your departments, of course. Thank you very much.

Mr. SHARP. We now welcome our next and last panel of witnesses. We combined things here a little differently. We have Dr. Philip K. Verleger, with Charles River Associate; Mr. David Gushee, an independent consultant and analyst with the Congressional Research Service—we should know that well; Mr. Edwin Rothschild, with the energy—he is the energy policy director for Citizen Action; Mr. John Buckley, of Verner, Liipfert, Bernhard, McPherson and Hand; and Mr. Charles DiBona, president of the American Petroleum Institute.

Gentlemen, I know all of you have been before our committee before. We will make your statements a part of our printed record and be happy to hear your oral summary at this point.

Dr. Verleger, we will give you a second to get organized and let you kick off again. You have been before us many, many times—very helpful to the committee.

STATEMENTS OF PHILIP K. VERLEGER, JR., CHARLES RIVER ASSOCIATES; DAVID GUSHEE, INDEPENDENT CONSULTANT AND ANALYST, VIENNA, VA.; EDWIN ROTHSCHILD, ENERGY POLICY DIRECTOR, CITIZEN ACTION; JOHN G. BUCKLEY, ON BEHALF OF INDEPENDENT FUEL TERMINAL OPERATORS ASSOCIATION; AND CHARLES J. DiBONA, PRESIDENT, AMERICAN PETROLEUM INSTITUTE

Mr. VERLEGER. Thank you very much, Mr. Chairman.

Let me start by thanking you for the efforts you have made over the years on behalf of really removing regulations from the economic energy sector. I did listen to you discuss the problems of the price regulations and natural gas deregulation. I have had the fortune to attend a number of your seminars here——

Mr. SHARP. Well, they are all based on experience, because I usually was on the other side first. Then I moved over after I learned.

Mr. VERLEGER. I, for one, am going to miss you, since I think this is certainly the last time—and thank you, and let me join the chorus of thousands who have praised you.

I submitted testimony for the record. Let me run through a set of seven points and then talk very briefly about the price impacts from these regulations.

As we have heard before, local shortages and market imbalances are going to occur. I think large terminal facilities may have difficulty carrying all the products mandated by EPA because of the proliferation of the products and the limited number of smaller tanks. I suspect that the futures contracts traded on the New York Mercantile Exchange may offer us less help in terms of telling where the market is in the future; and there may even be delivery problems due to the lack of fungibility among the products. And I think that if that happens, we will lose the benefit we get from the futures markets in terms of holding larger inventories, which will increase even more the probability of some price spikes.

I think that my research suggests that some independent gasoline distributors that traditionally marketed low-price, unbranded gasoline may have difficulty obtaining product at prices that enable them to compete as effectively in the marketplace. Retail margins, as a consequence, may rise by as much as 10 cents a gallon. Oddly enough, refiners on the Gulf Coast could easily find themselves saddled with excess supplies of reformulated gasoline, because they have prepared so well to produce the product. They will suffer substantial financial losses. And should the U.S. Court of Appeals uphold the ethanol rule, the whole distribution system may come to a screeching halt, leading to very large price increases.

Let me turn to page 6 of my testimony. There I have tried to isolate the four factors that I think we are going to observe in terms of increased prices next year. They are increased costs of oxygenates, producers of reformulated gasoline have to blend 2 to 2.7 percent oxygenate into the gasoline; increased prices due to storage bottlenecks; increased transportation costs and increased dealer margins. The oxygenates are going to add 5 to 6 cents a gallon, maybe a little more, and the higher price results primarily from the increase in the price of methanol.

Methanol was trading at about 40 cents a gallon. It is now $1.30; it may go higher just due to a capacity problem. Storage bottlenecks in terms of low inventories or inability to store the various products and thus the reduction in the flexibility of the storage system, plus the slower through-put that we talked today, could push prompt prices up versus forward prices by 3 to 5 cents per gallon, maybe 7 cents a gallon, just as we saw in December 1989, when it was so cold, and prompt heating oil traded at about 15 to 20 cents per gallon premium over forward prices.

Transportation costs, particularly in the northeast, could add 3 to 5 cents a gallon more, because additional volumes will have to move by Jones Act ship from the Gulf Coast to the northeast, unless the Colonial Pipeline can accommodate them, and the shipping rates will go up. We have not, as you know, maintained a significantly large enough domestic shipping fleet.

Lastly, should there be some tightness in the market, I think dealer margins could go up by as much as 10 cents a gallon. Every time the market gets tight, if you look around the country in regional areas, what happens is dealer margins go up. This doesn't go back to the refiner; this is due to the competitive system we have in retail, and we can see 10 cents a gallon at times added to the retail price.

So I think we are looking at price increases that could be in the range of 10 cents to as high as 30 cents a gallon, and that is on top of any crude oil cost difference.

Last year, the gasoline that was marketed in January was based on about $14 to $15 crude. We could be at $18 crude, so that would add something else. We are all looking at significant price increases.

Thank you, sir.

[The prepared statement of Philip K. Verleger, Jr. follows:]

Prepared Statement of
Philip K. Verleger, Jr.
Vice President
Charles River Associates

Mr. Chairman and members of this subcommittee, it is a pleasure to appear again today to discuss the impacts of the reformulated gasoline program on gasoline supply, transportation, and distribution. In my testimony I will outline my thoughts as to the effects of this very complicated program on the gasoline market.

The reformulated gasoline program is the most complicated regulatory program to be imposed on the petroleum industry in fourteen years. It requires the industry to change the formulation of gasoline, progressively reducing the amounts of benzine, toxics, sulfur, olefins, and certain other compounds over the next six years while increasing the fuel's oxygen content. The regulations have a well-intended purpose — air quality improvements in some of the nation's most polluted cities.

In my view[1] the implementation of the program may have at least three adverse impacts on the petroleum market. First, the proliferation of products and associated storage problems may cause unnecessary increases in prices. Second, the controversial treatment of imported products may artificially reduce the availability of imports and cause further price increases. Third, the last minute attempt to mandate the use of renewable oxygenates in fifteen percent of the RFG supplied in 1995 and thirty percent of the RFG supplied in 1996, together with the unworkable system of credit trading imposed by the EPA, threaten to cause enormous dislocations and cost consumers billions. I suggest in my conclusions that had the EPA intended to pay financial tribute to ethanol producers, the Agency could have achieved its goal more efficiently by ordering oil companies to pay money directly to these manufacturers.

LOGISTICAL PROBLEMS

The reformulated gasoline program threatens to cause serious logistical dislocations to the petroleum industry. The consequence will be very volatile and occasionally very high prices.

As implemented, the EPA rules will require reformulated gasoline to be distributed in nine cities and metropolitan areas and at least one state. These areas account for approximately one-third of the nation's gasoline consumption. Refiners are required to produce two types of basic reformulated gasoline: one for cities located in the warmer areas (referred to as VOC Region 1), and a second type for cities located in colder areas (referred to as VOC Region 2).

The regulations also require that refiners offer two types of gasoline within each region during the winter months: a gasoline with a high level of oxygenates to meet the requirements of a second program intended to reduce high levels of carbon monoxide, and a fuel intended for other areas. Thus, refiners may, in theory, ship four types of reformulated gasoline at one time (eight types if they ship regular and premium grades of each type.)

In fact, refiners must ship many additional types of gasoline because they must also supply a conventional grade of gasoline to other regions and RBOBs (Reformulated Gasoline Blendstock for Oxygenate Blending). In fact, the regulations would have required refiners to ship eight different types of RBOBs if the US Court of Appeals had not stayed implementation of the ill-advised renewable oxygenate standard.

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[1] The opinions expressed here are solely my own and do not necessarily represent the views of Charles River Associates.

Under the regulations, the various types of reformulated gasoline and reformulated gasoline blendstocks must be stored in segregated facilities. RBOBs cannot be commingled with reformulated gasoline. RFG blended for VOC control areas cannot be commingled with RFG that has not been blended for VOC control areas. RFG blended for VOC Region 1 cannot be commingled with RFG blended for VOC Region 2. RBOB designated by a refiner for the renewable oxygenate program cannot be commingled with ordinary RBOB.

These segregation requirements place an enormous premium on the need for storage facilities, as well as storage capacities for both oil pipelines and oil terminals. While the industry has the aggregate capacity required, it is not clear that the capacity is of the correct sort. Specifically, pipeline and terminal facilities tend to be composed of a modest number of very large tanks — on the order of 225,000 to 250,000 barrels — rather than a large number of smaller tanks. Yet under the RFG program, it appears that the greatest efficiencies would be achieved if terminals were composed of a large number of smaller tanks.

The incompatibility of storage facilities with the new product mix mandated by the EPA could result in frequent cycles of shortages and surpluses. At times, terminals will find that they have inadequate supplies of a specific product required in one region but a surplus of a different type of product. Because substitution of one product for a second is illegal, the product in surplus will have to be dumped on the market while the needs of the region go unfulfilled. This situation is most likely to occur in the East.

Left to themselves, markets will solve this allocation problem. Spot prices of the gasoline in short supply will increase dramatically, while spot prices of the gasoline in surplus will plunge. Congress and the public should expect to observe frequent swings in spot prices and similar fluctuations in retail prices.

LIMITATION ON IMPORTS

One of the key problem areas associated with RFG concerns the base line refiners and importers use to certify gasoline as reformulated. Under the regulations issued by the EPA, refiners are required to achieve the levels of sulfur, T-90, and olefin content of the gasoline they marketed in 1990. Three alternate methods are offered to domestic refiners to establish their base line. Foreign refiners and importers, on the other hand, are generally required to import product that meets a "statutory base line," which represents the average quality of gasoline consumed in the United States in 1990.

It is thought that this regulation will put foreign refiners and importers at a disadvantage *vis-à-vis* domestic firms because the statutory base line includes product manufactured for the West Coast market, that is, product that was already much cleaner than average gasoline. The more stringent regulations on imports may limit the availability of gasoline supplies to unbranded gasoline distributors in the Northeast, who traditionally rely on foreign refiners for much of their supplies. The result will be higher prices at the pump.

Ironically, the financial supporters of this protectionist measure will probably receive few benefits. Instead, retail distributors of gasoline are likely to be the major financial beneficiaries. Retailers, not refiners or wholesalers, appear to have been the chief financial beneficiaries of prior periods of tight supplies, such as the December 1989 cold spell or the 1990 Kuwait disruption. This spring I expect that gasoline retailers will again benefit, perhaps to the extent of 10 cents per gallon. Little of the benefit will make it back to refiners on the Gulf Coast, however, because the Gulf is likely to be plagued by a large surplus of product.

THE RENEWABLE OXYGENATE MANDATE

Fortunately, the US Federal Court of Appeals for the District of Colombia stripped the reformulated gasoline program of its most onerous and unmanageable element at the last minute. This element is the requirement that refiners use renewable oxygenates in a portion of the gasoline produced.

At the last minute, the EPA issued a rule requiring that fifteen percent of the oxygenates contained in reformulated gasoline come from renewable sources (i.e., ethanol) in 1995. The EPA would have allowed refiners to comply with the rule either by blending renewable oxygenates into fifteen percent of their gasoline or acquiring oxygenate credits from other firms that have blended renewable oxygenates into more than fifteen percent of their reformulated gasoline.

The rule has a number of problems in my view. First, I see no energy security or environmental benefits. Second, ethanol supplies are concentrated in the midcontinent region, while most RFG will be sold on the East Coast. Third, the rule would have forced terminal operators to segregate their storage facilities further to hold two to four additional grades of gasoline and two to four additional types of RBOBs.

If implemented, the rule would have required that fifteen percent of the reformulated gasoline manufactured or imported contain renewable oxygenates. These renewable oxygenates can be obtained from ethanol, ETBE (ethyl tertiary butyl ether), or certain other supplies. In 1994 most of the supply would have come from ethanol because ETBE manufacturing facilities are limited. Firms blending ethanol would have been forced to mix the alcohol into twenty-three percent of their gasoline during two periods — January 1 to May 15 and September 15 to December 31 — because other rules prevent the product's use during the summer.

The rule also would have created two principal operational difficulties stemming from the fact that it requires ethanol blending to occur at the terminal, not the refinery (because ethanol tends to absorb water in shipment), and the fact that there are limited ethanol supplies in many markets.

The requirement for blending ethanol at the terminal would have forced terminal operators to create an additional product segregation at their facilities. As noted above, the RFG rules already require more segregation of products. This further separation would have reduced effective storage capacities even more, leading to even more volatile prices.

The limited availability of ethanol in markets would also create problems. Ethanol supplies are naturally available in the US Midwest, and it has been regularly blended into gasoline in many midwestern states for more than ten years. In contrast, ethanol supplies are very limited in the East and West Coast markets where the EPA regulations require most RFG to be sold. Thus the renewable oxygenate rule requires either that ethanol be transported to these markets or that refiners trade credits.

In the interests of efficiency, one would hope that most ethanol would reach the coastal markets though the trading of credits. However, the EPA went out of its way to make such trading difficult. Specifically,

- Credits could only be traded between refiners, importers, or oxygenate blenders that create the credits and refiners, importers, or blenders that use the credits to achieve compliance. No middle parties would be permitted to engage in trading.

- Refiners, importers, or oxygenate blenders that purchase credits and later conclude that they have made excessive purchases could not resell their credits.

- Buyers of credits could later be found to be in violation of the rule if the seller of the credit improperly created the credits sold to the buyer. EPA could conclude that credits were improperly created if it finds that in transferring the credits, the seller created a negative balance for its account at the conclusion of the accounting period.

These regulations would have made the trading of credits difficult, if not impossible. The trading firms that have so successfully revolutionized all markets are specifically excluded from the market. The consequence will be a very small, illiquid market. The small size of the market guarantees that prices offered for ethanol credits will be very volatile and that wide bid-asked spreads will prevail.

Here I think EPA officials deserve to be chastised in the strongest possible terms for gross negligence, ignorance, and total lack of concern for the public interest. Their ostensible reason for adopting such harsh and illogical rules is to prevent traders from creating daisy chains of credits that could never be audited. They apparently fear that some unscrupulous individuals will deceive them and the public. As a consequence, they have proposed a restrictive rule that would boost consumer costs by billions of dollars.

I would suggest that there are alternative trading mechanisms that would have worked (and would work if the rule is ultimately upheld). The systems are used by the New York Stock Exchange, the American Stock Exchange, NASDQ, the Chicago Board of Trade, the Chicago Mercantile Exchange, and literally hundreds of other stock and commodity markets around the world. These systems generally avoid the problems feared by EPA.

Congress should require the EPA to allow a market in credits to be established and also require that the Agency does not establish the rules in advance. Failure to do so will cost consumers an enormous amount.

Should the ethanol rule ultimately be upheld, I suggest that the EPA change the requirement and offer refiners the choice between using renewable oxygenates directly or paying a certain fee per gallon into a fund. Such a system would follow the precedent of the entitlement system used under the oil price regulation system. The fund could be administered by USDA to benefit farmers. Alternatively, I think it more appropriate that the fund be administered by the world's largest ethanol producer. After all, the ethanol rule was a pure political payoff that would have primarily benefited one company, with farmers receiving perhaps thirty percent of the revenue. Why not avoid the logistical problems and unnecessary price increases and require that the oil industry make tribute payments directly to the ethanol producers?

PRICE EFFECTS

In addition to higher costs of crude oil this spring, retail gasoline prices will be affected by five different factors that can be traced to the reformulated gasoline program. These are

- Increased costs resulting from the inclusion of oxygenates;

- Increased costs resulting from higher transportation costs (this applies only to the East Coast);

- Increased costs resulting from limited storage capacities; and

- Increased costs resulting from higher retail margins.

The following table summarizes the possible increases in prices that may be associated with the program. My best guess (not forecast) is that the program will boost retail prices by 10 to 15 percent in the absence of a renewable oxygenate mandate and by 15 to 30 percent with the renewable oxygenate mandate.

Potential Impact of the RFG Program on the Retail Price of Gasoline	
	Cents per Gallon
Increased Costs of Oxygenates	5 to 6
Increased Price due to Storage Bottlenecks	5 to 10
Increased Transportation Costs	0 to 5
Increased Dealer Margins	0 to 10
Total	**10 to 31**

CONCLUSIONS

The reformulated gasoline program imposes very tight restrictions on the US petroleum industry. The rules will make it particularly difficult to move product from the refinery to terminals and filling stations. The consequence will be higher prices to consumers. Unfortunately, the cost to the consumer will be unnecessarily high because EPA has implemented the program in a terribly cumbersome fashion. The imposition of protectionist measures that make it more expensive for foreign refiners to participate in the US market will also boost costs. Lastly, the unnecessary renewable oxygenate mandate could sharply increase the cost of the program to consumers. In total I expect that retail prices could be boosted by 10 to 15 percent in the absence of the mandate and 15 to 30 percent with the mandate. A good portion of these increases could be avoided had the EPA used more thought and care in writing the regulations.

Lastly, I would like to conclude this testimony with a personal comment. Mr. Chairman, I note that you will be retiring at the end of this session of Congress and that this is almost certainly the last time I will appear before you as a witness. Over the last fifteen years it has been my privilege to testify before this subcommittee on many occasions. It has always been a pleasure to appear here. You have always been one of the most informed and one of the most patient members of Congress. You have also established a truly excellent record, guiding the Congress and the nation from an era of unproductive regulation of energy markets to a new era of competitive, unregulated markets. I congratulate you on your achievements and wish to state for the record that I for one will miss you. You have done an excellent job. I wish you the best of luck in the future.

Mr. Sharp. Thank you.

Mr. Gushee.

STATEMENT OF DAVID GUSHEE

Mr. Gushee. Thank you, Mr. Chairman. I want to briefly comment on five issues, the impact of implementing the RFG rule on supply and price, the impact on oil consumption and energy security, the ROS, the foreign import question, and the reg-neg process, those things that you asked me in my letter.

We have heard a lot about the fungibility thing. And one thing we have not heard too much about is EPA's expressed intent to be pretty firm on the enforcement side. And it seems to me that that is going to make the operators a great deal more conservative than they would be in the face of a more liberal enforcement policy. I expect some local market distortions.

I think that some marketers may have to control hours, for example, when they have short supplies. This ought to change market shares some. Some may withdraw from market areas where they are not major factors.

With respect to price, I think that is pretty tough to predict, because there are so many degrees of freedom available, and they don't make the decisions until they know the exact details locally at the moment. I think the volume of gasoline produced should hold about steady, despite the shutdown of some smaller refineries unable to make RFG, and losing their markets to RFG. Oil consumption and gasoline will go down and nonoil content will go up. Some 70 to 80 percent of the ethers and all the ethanol are nonpetroleum. This may or may not reduce oil imports. That depends upon how refineries adjust their operations. And the domestic content of gasoline would go up because most of the oxygenates come from the United States.

The ROS, should it be implemented, I think that most of the ethanol would be added as ethanol in the wintertime. It displaces less oil than ethers do, so the reduction of oil consumption would be less with the ROS than without it. And the mandate will further complicate the distribution system, and not having to cope with this complication will really help this year, is my observation.

The foreign—the importer issue, I think, is basically economic. Any environmental benefits would be minor in that the 1990 volumes of dirtier than average imports that would be—that came in under the refiner's baseline, they would be 58 percent cleaner than they were in 1995—in 1990. Now they are 15 percent cleaner than the average baseline, which is cleaner than their baseline. That is not much, though. So instead, the congressional action imposing the statutory baseline increases the possibility of supply shortages, increases opportunity for higher gasoline prices and reduces the likelihood of losses of market share and economic losses by domestic refiners.

With respect to the reg-neg process, it looks to me, as an observer, that it has led to a better rule than would have been developed without it. It seems to me, from what I have seen, that relationships between the EPA technical staff and their regulator community technical staff have been improved, and information flow enhanced.

The rule will apparently not be challenged in court, one of the objectives of the reg-neg process. In this regard, the process has been a success. On the other hand, the issue consumed an immense amount of staff time which could otherwise be used to speed up the rulemaking process and result in an earlier final rule. The impact of this delay is one of the issues on the table today.

Further, the reg-neg option itself is not under a cloud. The incentive to participate in it is reduced by the concern that a final agreement is not necessarily final. EPA separation of the renewable mandate has apparently saved the rule. Whether it has saved the reg-neg option, though, is not clear.

And, lastly, a good case can be made that the role of renewable energy in transportation fuels is a policy issue that will be more effectively resolved through legislation than through Agency rulemaking under uncertain authority. And that is a classic CRS presentation. A good case can be made. And it is also 20/20 hindsight.

Thank you, Mr. Chairman.

[The prepared statement of David E. Gushee follows:]

Statement of David E. Gushee, Consultant

The vantage point from which I have been studying the evolving RFG issue has been as a policy analyst for Congressional Research Service. Since retiring about a year ago, I have continued in the same vein, except as a contractor to, instead of employee of, CRS.

Impact on Supply and Price

Making RFG itself or precursors to it such as RBOB (reformulated gasoline before oxygenate blending) will require some modifications in the ways refineries will be operated. In the early years of the program, these modifications will consist primarily of adding oxygenates, reducing the volatility, and in some cases reducing the benzene concentration. Most larger refineries will be able to do this by a modest reprogramming of the way they use existing process equipment. This is not to say that refiners will be happy to do these things, because their costs will go up and their flexibility will be reduced, not only by the RFG requirements but also by the anti-dumping rules, until they make the necessary investments to re-optimize feedstock and product slates.

Some refineries, particularly the smaller ones whether owned by the major oil companies or by independents, will not be able to make RFG with existing equipment. These will not only have to comply with the anti-dumping rules but will also be limited to markets outside of the RFG control areas. Some have already been shut down or soon will be. Should more ozone nonattainment areas opt in to RFG, others will be shut down. And some refineries, particularly those producing both RFG and conventional gasoline, will be able to make perhaps regular and premium RFG but not mid-grade or RBOB.

The net effect of these changes will be somewhat higher costs, reduced overall supply flexibility, and reduced numbers of suppliers in some market areas. There may not be any reduction in overall supply, because adding oxygenates increases the volumes of gasoline produced from a given volume of crude oil processed. I have not attempted to put any numbers on these impacts.

The problems of distributing RFG while ensuring compliance by keeping refiner-specific batches separate and keeping the required records may turn out to be more difficult and longlasting than the problems of making it. Gasoline has been a technologically forgiving product -- that is, its composition can vary a good bit without causing performance problems. Thus, the system has been remarkable for its flexibility, with that flexibility being responsible in large measure for the sector's ability to keep distribution costs low, to keep retail outlets dependably supplied, and to minimize supply disruptions and related price swings from such factors as refinery outages (whether scheduled or unexpected).

There are two major impacts on the system from the RFG rule.

One is the reduced fungibility of gasoline from different sources, the other the increase in record keeping and oversight requirements. The record keeping requirements will add cost and confusion but do not appear to be part of any critical path to system breakdown.

The reduced fungibility, however, may become the source of temporary shortages, price spikes, and reduced competition at the retail level. In this respect, the recent stay of EPA's renewable oxygenate standard is a good thing, because it removes one complicating piece from the distribution puzzle in the first year of the RFG mandate. The problem remaining is that, where in the past a distributor could take anybody's generic gasoline out of a large pipeline batch into his tankage, add his own package of additives, and sell it as his branded gasoline, this will not be possible in cases where the gasoline in the pipeline is not in large generic batches but is segregated into relatively small refiner-specific batches.

How serious this will become will depend on the extent to which refiners produce specific gasolines rather than generic gasoline. There will be different volatilities, different oxygenates, and different benzene levels, depending for example on whether refiners produce under the simple model or the complex model, to their own baselines or to the statutory baseline, and for which oxygenates, if any, they have added.

I am not privy to refiners' plans. It seems likely that over the long term refiners will seek to minimize the numbers of different gasolines they put into the distribution system in order to recapture the flexibilities of the current system. Over the short term, however, that desire will be tempered in part by their own specific economics and in part by concerns over noncompliance. Opportunities for noncompliance will be fewer for refiners who maintain control over their gasoline batches from refinery through distribution to the service station and, ultimately, to the vehicles. The harsh penalties authorized by the Clean Air Act Amendments of 1990 and EPA's overt plans to use them will cause refiners and carriers to be very conservative. This also will make the system less responsive to surprises.

I therefore expect some local market distortions, where branded service stations will have to curtail operations temporarily. I also expect some marketers to withdraw from some market areas where the costs of overcoming these distribution requirements or the potential liability from noncompliance penalties will be viewed as too high for the cash flows involved. I have no idea of what will happen to price at the service station pump. The higher supply costs could be recovered from price increases in the control areas only or from regional or national price adjustments. Except for the short term problems, these cost increases will probably be not too different in magnitude from those caused by shifts in the world oil price. For short term problems, it would not surprise me to see some cases where opportunity will cause prices to spike, and other cases where, despite the opportunity to make a quick dollar, companies will absorb some short term losses rather than raise prices sharply and then lower them later when the problems are resolved.

Impact on Oil Consumption and Energy Security

The RFG program will reduce oil consumption in transportation, according to a whole range of studies by Department of Energy, Environmental Protection Agency, and others, including myself. The oxygenate requirement in the statute is the reason. Oxygenates are not the only way to make gasoline cleaner, but the other ways tend to use oil-derived inputs already available or readily producible in refineries.

A 2.0 % oxygen requirement can be met by 11.0% methyl tertiary butyl ether (MTBE), 5.7% ethanol, 12.7% ethyl tertiary butyl ether (ETBE) or tertiary amyl methyl ether (TAME), or 14.5% tertiary amyl ethyl ether (TAEE). There are other oxygenates, but these are the front runners, probably in this order.

The ethers are made from either methanol or ethanol plus isobutylene or isoamylene, the latter being C_4 or C_5 olefins. The olefins are available in refineries from catalytic cracking; they are also available by processing natural gas liquids removed from natural gas before the gas is put into the pipelines. Currently more than half of the olefins come from butane from NGL's, methanol is made from natural gas, and ethanol is made primarily from corn.

The oxygenates in RFG replace gasoline at the percentages noted. Although they have a lower energy content than the gasoline they replace and consume some oil-derived energy in their production, they reduce oil consumption and increase consumption of non-oil energy in automobiles. They are the fastest-growing non-oil component in gasoline.

They also are mostly domestically produced, thus reducing energy imports. About 20% of the methanol consumed in the U.S. is imported; most of the imports come from Canada, although the share coming from elsewhere is currently increasing. About 85% of the MTBE consumed in gasoline is domestically produced; 85% of the imports come from the Western Hemisphere, although the amount coming from Saudi Arabia is currently increasing. Thus, the oxygenates are not only reducing oil consumption but also are increasing the amount of domestically produced energy in gasoline. Most of the imports are coming from North and South America. This improves energy security.

The Renewable Oxygenate Mandate

Although one cannot be sure, it is likely that most of the ethanol used in response to the renewable oxygenate mandate would be in the form of ethanol added to RFG in the wintertime when RFG's volatility is not a critical factor. The economics are better (even where the ethanol tax advantages from ether use are fully realized) because ethanol-derived ethers cost more than the ethanol from which they are derived, the blender's tax credit is taxable as income, and the lower blending volatility of ETBE does not in most cases compensate for the extra cost. Further, the blender's tax credit is not available to many refiners because of their status relative to the alternative minimum tax.

To the extent that ethanol is used instead of MTBE, the amount of gasoline replaced goes down. Only 5.7% of the gasoline is replaced instead of the 11.0% replaced by MTBE. Thus, it is possible that oil imports could increase as a result of the mandate, should it survive its court test. Use of ETBE in the summertime would displace more gasoline than MTBE (12.7% instead of 11.0%), but it would take a lot of ETBE in the summertime to make up for the reduced displacement from modest amounts of ethanol in the wintertime.

Further, the mandate would greatly complicate the distribution logistics. There would be "renewable RFG" and "nonrenewable RFG" entering the distribution from each refinery. There would be at least four RBOB's instead of only two. To the "ether only" and "any oxygenate" RBOB's would be added "renewable ether RBOB" and "any renewable oxygenate RBOB."

These complications would add to the number of more-costly small batches of gasolines sent along pipelines and would further increase the need for more tankage along the distribution chain. It would further reduce the system's ability to exchange gasolines at terminals. In this sense, one can see the advantage to the industry to be able to start up and run the RFG distribution system for a while before the ethanol mandate kicks in, assuming that it does.

Baseline for Foreign Refiners

Allowing foreign refiners whose 1990 gasolines had a higher ozone-forming tendency than the statutory baseline to establish their own baselines gives them an economic advantage over domestic refiners in the same category, in that foreign refiners do not need to comply with the anti-dumping requirements for conventional gasoline marketed outside the United States. On the other hand, requiring them to use the statutory baseline when they could provide enough evidence to support their own individual baseline disadvantages them compared to domestic refiners who get to use their 1990 baselines, offsetting at least in part their advantage from not having to comply with anti-dumping requirements.

The argument that giving them their own baseline damages the environment is not valid in an absolute sense. That is, they would be producing the same ozone-forming tendency in 1995 that they did in 1990. Further, should they increase their RFG import volumes over 1990 volumes, the increment would have to meet the statutory ozone-forming tendency. In a relative sense, requiring the statutory baseline would, for an importing refiner below the 1990 average in quality, reduce the 1995 ozone-forming tendency of its gasoline. The same arguments apply, however, to domestic refiners with below-average 1990 gasolines.

The determining issue, on an analytical basis, is economic. Giving an importer its own 1990 baseline allows it to produce both RFG and conventional gasoline at a lower cost than requiring it to meet the statutory requirement. To the extent that its conventional gasoline is sold outside the U.S., the cost advantage increases. That lower cost, translated to the marketing areas in the U.S., puts a ceiling on the price increases that domestic refiners can apply without losing market share to the importer. It is not surprising that the domestic refiners, faced with problems of unknown severity in both supply and distribution, particularly distribution, would prefer not to have their pricing policies affected by such additional variables.

On the other hand, with the statutory baseline, the foreign refiners might not be able to produce their current volumes of imported gasoline while meeting the RFG specifications. Should that occur, any price discipline their presence in U.S. markets provides would be reduced. In addition, there is already the possibility that domestic refiners will have supply or distribution problems which might become serious enough to create shortages.

The issue, therefore, is the relative importance of increased probability of adequate supplies with some related effect on market prices, accompanied by possible economic losses for domestic refiners, versus increased probability of supply shortages, increased opportunity for higher prices, and reduced likelihood of economic losses for domestic refiners.

The Congress has chosen the latter value.

The Reg-Neg Process

As an observer of the reg-neg process, I was impressed by the amount of information exchanged, the growth in mutual understanding, and the complexity, fairness, and probable effectiveness of the resulting agreement.

The RFG rule has been a formidable challenge. It is undoubtedly a better rule because of the reg-neg than it would have been without the reg-neg. Relationships have been established at the technical level between the EPA and the industry which have noticeably improved the flow of information in both directions. The RFG rule will apparently not be challenged in court.

In that sense, the reg-neg process has been a success.

It is disturbing, however, to see the impacts on the reg-neg alternative of the process by which the renewable oxygenate mandate has come into being. One impact was the allocation by both EPA and the stakeholders of appreciable resources to the ethanol issue that could otherwise have been devoted to the RFG rule itself. Getting to promulgation of the RFG rule thus took longer than it otherwise would have, leaving both the industry and the EPA less time to prepare for implementation.

The other impact is the threat to the reg-neg option itself. Reg-negs take a lot of time from a lot of expensive people. A number of stakeholders have wondered out loud whether they would invest their resources in future reg-negs when they have now seen that the final agreement is not necessarily final. EPA's separation of the renewable oxygenate standard into a separate rulemaking has apparently saved the RFG rule. Whether it has saved the reg-neg option as well is not clear. Time will tell.

The renewable oxygenate mandate itself is not the issue of concern in this regard. Government has the right to make policies that in its view further the national interest. In this case, it seems to me that the role of renewable energy in transportation fuels is a policy issue that would be more effectively resolved through legislative action than through agency rulemaking under uncertain authority.

Mr. SHARP. Thank you.
Mr. Rothschild.

STATEMENT OF EDWIN ROTHSCHILD

Mr. ROTHSCHILD. Thank you, Mr. Chairman. I, too, want to share Phil Verleger's comments about your departure. You have been around a lot of issues for a long period of time, and I must say it is a sad day that you are not going to be here after this session of Congress. You will be missed.

I think I have a lot of agreement with the prospects of a short-term supply and price problem. I think also that whatever happens, the market will work it out. If prices go up very high, they stay up for several weeks to a few months; they will eventually come back down.

I have a longer-term concern about what the RFG program implies, because the RFG program didn't start out that way. We started out with alternative fuels. We started out with a broad effort to clean up the fuels, and we got to RFG because primarily oil companies feared the competition from alternative fuels and that they would have less market for their product. So we are at RFG primarily because the industry lobbied it that way.

And what is happening overall for the longer term that we have—you know, looking back—and sort of the context we are in now is that the oil industry has become less competitive, more concentrated; companies have pulled out of regions, concentrated on other regions. We just saw Sun buying up Chevron's refinery, giving them about 500,000 barrels a day up in the northeast. Mobil dominates that market. It was no surprise that both Sun and Mobil led the fight to keep the Venezuelans from importing certain product to compete with them.

It is no surprise, too, if you look at some of the data we have—at least some data from the National Fuel Survey by the Motor Vehicle Manufacturers Association—that the whole argument that the refiners made about Venezuelan gasoline being "dirtier" was absolutely false. Because those refiners also make gasoline that is dirtier than the baseline. That is a fact.

And the issue here is not environment; the issue here is market share. That is what concerns us as consumers, that the disappearance of competitors, be they foreign competitors, domestic independent refiners or independent marketers, those competitors are going to be under much pressure in terms of survival, because they have to survive with respect to more complex rules, they have to survive because they will not have the easiest access to fungible products that they once had in terms of selling to consumers. And if we lose those independent refiners because of this rule, consumers will pay the long-term cost. And it is the long term cost that bothers me the most.

I think in the short term, we will see fluctuations; but in the long term, we are going to end up with a tighter market, a less flexible market, and a far less competitive market. And I think that is where we have to keep our eye on and not just worry about what is going to happen in January, because I think what is going to happen in January, we have a new program, there are going to be glitches, things are going to go wrong. I think the assumption that something is going to go wrong is a better one than everything is going to go smoothly, given our experiences in the past.

Mr. Chairman, you noted what happened. Take the Exxon Valdez; here is a small little problem that, you know, ended up causing a 10-, 12-cent increase in gasoline prices per gallon on the West Coast, about a nickel on the East Coast—small problem creating very big results. But that too went away after the market adjusted; we didn't need any government intervention. The problem is, it probably lasted longer than it should have, given the decline in competition that has occurred.

All you have to do is take a look at California. California, a few years ago, had the lowest gasoline prices in the country. That is no longer true. And it parallels, in our judgment, the decline in competition.

We also think, contrary to Phil's concern about the ROS, that the ROS does provide—or would have provided, had it been in effect—some alternative fuel supplies in certain areas of the country. It may not now, because refiners are refusing to make the gasoline, so-called RBOB, the fuel, the blending component. If they don't make any blending component, people can't buy it. Then there is not going to be any blending of ethanol in places like the Midwest, and these independent marketers that depended on it will be hard-pressed to stay in business.

I would also like to point out—and I think, going back for a minute with respect to the issue of Venezuelan gasoline, I think it is very, very important to know that this idea of refiner-by-refiner baselines is not in the Clean Air Act; it was something that was done at reg-neg. One of the things that happened at reg-neg, you made agreements that didn't necessarily comport with exactly the wording in the Clean Air Act. I think, theoretically—to answer the question about participation in reg-neg, theoretically it is a good idea, getting everybody concerned around the table in a room to agree. We ended up signing it. I think we were the last people to sign the reg-neg, and we did so under protest; and we sent a letter to the Assistant Administrator of Air at that time, Mr. Rosenberg, saying what we were concerned with was that there was no focus, no concern or very little concern about the impact of this rule on competition and on consumers. Because the general agreement that was made at reg-neg was between the API, the NPRA, and the State environmental representatives. And it was a broad rule, it satisfied the major players in the game. And everybody else was basically pushed to accept it. Now everybody had to sign it, but there was enormous pressure to get this done.

Second, everybody that comes to the table is not equally prepared to deal with the issue. Some people are more informed than others; some people are more equal than others. We have no way of participating along with someone from an oil company that has all sorts of information available about their operations. We can't hope to understand what the outcome of a particular rule will be on one company or a multitude of companies. We have to guess and we have to rely on the EPA.

I am not saying that the other process is any better. The administrative process is also geared to those who can afford the legal help, can afford the expert help and participate. Some environmental groups do very well in that; others don't. So it is disproportionate.

I don't—I basically thought the reg-neg was better than the administrative process. I still do. But you have to be aware of the problems associated with it.

I think we also have to be—just to make one more point about competition, the independent refiners, we have seen a lot of them disappear. More of them are likely to disappear, even though our overall capacity to produce fuel has not declined.

I point out—I think I have a chart here, that I prepared this morning, about the changes in refinery capacity that have occurred over the last few years. And what we see in 1991—January, 1991, we had 184 refineries with close to 15 million barrels a day capacity. In January, 1994, we have 171 refineries, with 14.7 million barrels of capacity, about a 300,000 barrel decline, but overall still capable of producing large volumes of gasoline since the refineries internally have shifted to technologies that increase the production of gasoline relative to other fuels.

Finally, I would like to point out that with respect to prices, I agree with Phil Verleger. We have seen huge increases in methanol prices which have led to increases in MTBE prices. And in point of fact, those who argued very heavily against importing product from Venezuela have no problem importing product like MTBE from places like Saudi Arabia. Mobil and Shell have joint venture refineries there.

A lot of the MTBE we will be looking at in terms of the reformulated gasoline program is going to come from the Persian Gulf. If anybody has surprise securities about all the oil we are getting there, we may not get oil anymore, we may start getting more MTBE.

Thank you, Mr. Chairman. I will be happy to answer any questions.

[The prepared statement of Edwin S. Rothschild follows:]

Statement of Edwin S. Rothschild, Energy Policy Director, Citizen Action

Mr. Chairman and members of the committee, my name is Edwin S. Rothschild. I am the Energy Policy Director of Citizen Action, a nationwide consumer organization with over three million members in 32 states. We very much appreciate the opportunity to testify today on the implementation of the reformulated gasoline ("RFG") regulations of the 1990 Clean Air Act Amendments.

As a national consumer organization that participated in the effort to pass clean fuel standards as part of the Clean Air Act Amendments of 1990, in the regulatory negotiation which followed, and in the subsequent regulatory, legal and political battles over the rules governing the production and distribution of RFG, we are deeply concerned about the likelihood of supply disruptions, a decline in competition and significantly higher gasoline prices when the RFG program takes effect on January 1.

We believe that the RFG program is destined to dramatically alter the gasoline marketing landscape to the detriment of independent refiners, wholesalers and retailers and consumers. It is a program designed by and for the major, integrated oil refiners who clearly intend to use the RFG program, albeit under the guise of a federally-mandated environmental policy, to wipe out competitors and artificially raise prices to consumers.

While the RFG program will help reduce the volume of ozone-forming emissions from the nation's automobile fleet, it is likely to do so at a significant economic cost. This is because the major integrated oil companies are in a far better position to benefit financially from the program (especially after they have dealt blows to their competition through political, legal and regulatory processes), than their chief competitors. Although the actual costs of producing reformulated gasoline range between 3¢ and 5¢ per gallon, it is likely that consumers will see price increases ranging from 10¢ to 20¢ per gallon. Yesterday, the spread between conventional gasoline for November delivery and reformulated gasoline for December delivery on the New York Mercantile Exchange had risen to 8.8¢ per gallon where a few short weeks ago it was only 5¢/gal.

Before addressing the questions raised by the subcommittee, I believe it is important to review how it is we got to the RFG program in the first place, whose idea it really was and why it is a program about which consumers should rightfully worry.

Changing Structure of the Gasoline Market

Over the past 15 years, America's major oil companies have radically altered the structure and operation of their oil refining and gasoline marketing businesses. Major oil company retrenchment, restructuring, consolidation, economic rationalization, and increased market concentration have sharply reduced the number of competitors in the refining industry and in gasoline retailing in nearly all of America's major metropolitan areas. As a consequence, the major oil companies can raise gasoline prices more quickly, keep them higher for longer periods of time and lower them more slowly than in past periods when the existence of aggressive, price-conscious competitors could push prices down. As independent gasoline wholesalers and retailers disappear or are forced out of business, consumers will have fewer choices, and most of those choices will be major companies who tend not to compete on price. Just look at what has happened to retail prices on the West Coast, now that Arco has achieved its dominant position. Where once gasoline prices were among the lowest in the nation, they are now among the highest.

In addition to the massive industry restructuring that has occurred, there have also been numerous changes in federal environmental laws which favor the largest, integrated oil companies at the expense of smaller, locally-based companies. The Clean Air Act Amendments of 1990, for example, require that by January 1, 1995 "reformulated gasoline" (RFG) be used in nine cities with the worst ozone pollution. Because of the complexity and costs associated with implementing this new program, it is likely that many independent petroleum wholesalers and retailers may find it more difficult to remain in business. Because the supply of reformulated gasoline may be unavailable at reasonable prices, or only available to their refiner competitors, it is likely that the major oil companies will seize the opportunity to expand their share of key gasoline markets, especially in the Northeast where most states will participate in the RFG program.

In fact, the recent acquisition of the Chevron's Philadelphia refinery and associated facilities by Sun (an acquisition which actively opposed as anti-competitive) increases Sun's market share of refinery capacity in the Delaware River region from 30% to 47 percent. The acquisition also increase Sun's market share of retail gasoline sales to between 30% and 40% in the Philadelphia metropolitan area from between 20% and 30 percent. Finally, even though Sun agreed to provide independent marketers formerly supplied by the Chevron refinery, the agreements will expire in a few short years. Sun's strategy was articulated clearly by its chairman in the company's 1992 annual report, "By concentrating our branded marketing in the Northeastern U.S. where we're strong...we are well on our way to improving our share of the market."

Mobil and Sun are the largest marketers of gasoline in Northeast followed by Citgo. It is not surprising therefore that these companies, which are out to increase their market share even more, are attempting to do so at the expense of Citgo by seeking restrictions on imported reformulated gasoline from Venezuela, which now owns Citgo. Market share is the objective. The means are numerous, but now include the shaping of environmental regulations.

Background on the RFG Program or How B'rer Big Oil Told B'rer Congress Not to Throw It Into the Government Gasoline Briar Patch

When President George Bush announced his proposal in 1989 to clean up the nation"s air, he included a remarkable proposal--by 1995 there would be 1 million cars operating on clean, alternative fuels. Terrified that White House advocacy of such a major change could succeed, the major oil companies, led by Arco, were determined to derail the President"s plan. Most frightening to major integrated oil companies was the fact that initially, the President"s plan did not include any form of gasoline in the definition of "alternative fuel." In this category were ethanol, methanol and compressed natural gas. To get their chief product -- gasoline -- included in the Clean Air policy, the major oil companies came up with their own "alternative," known as "reformulated" gasoline. A frenzied lobbying and mass media blitz by the companies not only persuaded the White House to include "reformulated" gasoline under the alternative fuel category, but started to raise doubts in the minds of key decision makers and the media about the safety and cost of the other fuels.

Together with the automobile industry, the major oil companies convinced the President to drop his plan for a million alternate fueled vehicles. The oil companies also succeeded in persuading Congress not to adopt broad, but stringent standards to define a "clean" fuel. The API, for example, carried out a campaign criticizing "Government Gas," as if the idea for reformulated gasoline came from government regulators and not oil company executives. Although the final bill did contain provisions requiring greater use of oxygenates, cleaner-burning fuel components such as ethanol and MTBE (methyl tertiary butyl ether), and reductions of cancer-causing benzene and volatile organic compounds (VOCs) that cause smog, the major companies had won a significant victory. They had forestalled competition from cleaner-burning alternative fuels market. They had prevented the expansion of competing industries--the ethanol and methanol industries. They had succeeded in retaining their hegemony over the $100 billion a year automobile fuels market, because reformulated gasoline will be the dominant "alternative" fuel.

After Congress completed its work and the President signed the bill into law, the Environmental Protection Agency had the task of implementing new rules. The major companies, seeking a simple formula that would determine compliance with reformulated fuel standards, and state environment officials, seeking a simple method for reducing smog, together agreed on a set of provisions that met both needs. This agreement was hammered out in the course of an EPA Regulatory Negotiation (Reg Neg). While the Reg Neg included participants representing all those with an economic stake in the outcome, the process was dominated by representatives of the integrated oil refiners. The agreement reached made it more difficult for independent refiners and marketers to survive. In many ways, the new EPA rule on "reformulated gasoline," reflects the interests of major integrated refiners and treats their competitors in an unfair way. For example, the RFG rule currently requires gasoline importers and blenders to comply with a higher, more costly standard for certifying RFG than is required for refiners.

Although all participants in the Reg Neg signed the final document, we did so under protest, not because the process was inherently flawed (it isn't), but because it was overwhelmingly dominated by the major oil refiners. Our protest was expressed in a letter to then Assistant Administrator

William Rosenberg. We pointed out that we signed this agreement with serious reservations,

> because this agreement and the provisions of law that led to it will undoubtedly result in a dramatic decrease in the number of refiners and marketers of gasoline. By not recognizing the great economic disparities that exist within the petroleum industry among refiners and marketers, the requirements of the Clean Air Act Amendments of 1990 and some of the provisions of this agreement will allow the large vertically integrated oil companies to gain an even stronger hold over the industry. It will further entrench their market power and lead inexorably to significantly higher gasoline prices.

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Clearly, "reformulated gasoline" provisions will require investment in additional refining technology. Independent refiners, which are financially weak, because they cannot obtain crude oil at costs equal to the major companies and are being squeezed at the wholesale level, will be unable to raise or pay for the financing necessary in the short period of time for compliance. This is due in large part to the fact that independent refiners must raise money in the capital markets while the major companies can rely on internally-generated cash flow. As a result, according to one report several years ago, "enough refining capacity will be shut down in the next two or three years to shrink refining capacity and cause profit margins -- and prices--to increase."[1] More recently, one oil refining executive concluded that despite the loss in capacity at refineries that are too old and unsophisticated or in poor locations, others are taking steps to control costs and improve relative profitability. Those will not only survive, but prosper.[2]

Implementation of RFG Raises Consumer Concerns

Contrary to the view by DOE Assistant Secretary Susan Tierney last June before the Subcommittee on Oversight and Investigations that "we do not anticipate any significant shortages or pricing problems as a result of the reformulated gasoline requirements that were promulgated by EPA on December 15, 1993," we are convinced that implementation of the RFG program is very likely to result in spot shortages and potentially hefty consumer price increases, unless something is done to increase the supply of RFG to importers and independent marketers.

Our concerns are based on a number of factors. First, the RFG program is new. Even though the EPA and industry participants have had numerous meetings and discussions to clarify and modify EPA's procedures, rules, and regulations, we have to assume there are going to be start-up problems. As one pipeline official told an industry magazine in June, "Given the delays in promulgating the RFG program, the complexity of the regulations, and ongoing delays in clearly defining critical issues, we cannot be assured the program will be implemented without disruptions in supply of gasoline to the market."[3] Admittedly, the program introduces more complexity into the gasoline distribution system. Industry will have to cope, at least initially, with new logistical and storage problems. Because of an increase in the types of gasolines, gasolines that can no longer be co-mingled, there will be some loss of fungibility and flexibility in the system. While major refiners seem to be telling the DOE that they do not foresee any problems obtaining sufficient supplies for their own systems, the fact remains that other segments of the market may find it quite difficult.

In order for the program to work smoothly everything has to go right. We know, however, that despite the best laid plans of both public and private bureaucracies, the best of models and the best efforts, somehow problems crop up. In the past, the fungibility of gasoline and the flexibility of the system were able to compensate. Yet, in the past, there have been situations, such as the Exxon Valdez disaster, where even this flexible system failed and a small disruption in the market was translated into a significant gasoline price increase from the West Coast to the East Coast. A recent study by Bonner & Moore Associates concludes, "Temporary supply disruptions and RFG price spikes in the first few months of the RFG era are possible, similar to what was witnessed with the introduction of low sulfur diesel."[4]

On a technical level, it is obvious that the various segments of the oil industry involved in manufacturing, transporting, storing and delivering gasoline are working hard along with the EPA to reduce the likelihood of supply disruptions and price increases. On the other hand, however, it is also obvious that the major refiners are viewing the RFG program as an enormous opportunity to solidify their domination of the motor fuels market.

Leaving aside the possibility of a supply disruption due to logistical or weather-related problems, we are convinced that the major refiners have systematically and concertedly taken action to reduce competition and thereby increase the potential for significant short-term gasoline price hikes.

As we have already stated, since the outset of the national debate to reduce the pollution caused by the combustion of gasoline and other petroleum products in the nation's vehicle fleet, the major oil companies with and through their trade associations (the American Petroleum Institute and the National Petroleum Refiners Association) have done everything possible to reduce competition in the automobile fuels market by discrediting cleaner-burning alternative fuels and constructing a federal policy that imposes far greater costs and risks on their competitors.

If there are problems with RFG, it will not be because of the Clean Air Act Amendments per se, but because the major oil companies have succeeded, through the political, regulatory and legal process, in reducing the availability of supply. Certainly, the RFG program is replete with complexity and reduces the flexibility of the gasoline production, transportation and distribution system. Precisely because of the reduction in flexibility and the increase in complexity, everything should be done to ensure that as much RFG as possible is produced and delivered into the markets, especially the East Coast, where it is required. However, the exact opposite has happened and Congress itself is partially to blame.

A few weeks ago, a majority of the House of Representatives voted to reduce the supply of RFG to the East Coast by denying foreign refiners the opportunity to compete on a level playing field with domestic refiners. As a result, one industry trade publication reported that "December RFG price spread over conventional gasoline rocketed to 8¢/gal. last week, spurring more fears of price spikes in Northeast."[5] Major U.S. refiners, led by Sun and Mobil (the two leading suppliers of gasoline in the Northeast), lobbied to require foreign refiners like Petroleos de Venezuela S.A. to meet a higher standard than they must. As a result, PDVSA will not be able to ship as much RFG to the East Ccast. According to a recent report in *Platt's Oilgram News*, Congressional action in support of Big Oil will force PDVSA to cut by a third the amount of RFG it was expecting to ship to the United States.[6]

Another oil industry trade publication, *Weekly Petroleum Argus*, put its finger on the nub of the issue:

> The Clean Air Act and rulings by the U.S. Environmental Protection Agency (EPA) threaten to transform the trade in gasoline from an international market to a regional one. Trade in the 350,000 b/d of US gasoline imports will become more confined to the integrated channels between company affiliates. And with the transformation could come higher storage costs, a severe drop in market liquidity and greater price volatility.
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> ...What the EPA may not fully recognize is that the price the US motorist pays for gasoline is not determined by the cost of production but by the cost of marginal supply. This supply -- essentially imports -- could prove to be expensive. This could generate large returns for more protected suppliers. So the beneficiaries of the new regulations will be major oil companies with refineries and distribution systems. The losers will be small trading companies, the paying motorist and possibly the New York Mercantile Exchange.[7]

In our judgement, Congress capitulated to the power of the major oil refiners and supported a provision that artificially protects U.S. companies and undermines free trade. Restricting foreign imports of RFG by foreign refiners plays right into the hands of oil giants like Mobil and Shell, for example, which have joint refining interests with the Kingdom of Saudi Arabia, one of the major exporters of gasoline to the United States. In addition, opposition by these same companies to the EPA's Renewable Oxygen Standard ("ROS") will shift demand from domestically-produced ethanol to MTBE imported from Saudi and other foreign MTBE plants.

Opposition by domestic refiners to the EPA's ROS has put this program into legal limbo due to a recent court stay sought by the companies. The immediate effect of the court's decision is to require nearly twice as much MTBE, most of which will be imported. Certainly, oil refiner opposition to the ROS is not difficult to understand. Oil refiners prefer to use MTBE because most of them manufacture their own supplies or import MTBE from their own joint venture facilities in foreign countries. Ethanol is a competing product, one which many U.S. refiners have sought to avoid or discredit in the eyes of policymakers and consumers. While it may have been technically better to delay implementation of the ROS until June, nevertheless oil refiner efforts to kill the program have more to do with eliminating competition than promoting cleaner air.

A similar pattern of promoting their own self-interest can be found in refiner activities at the state level. In states considering opting into the RFG program, major refiners have systemically tried to persuade state officials not to opt in, but rather to adopt a "low RVP" gasoline strategy instead.

The High Probabilty of Gasoline Price Increases

We believe that the probabilty of hefty short-term increases in the price of reformulated gasoline is high for several reasons:

☹ Initiation of new program
☹ Increased complexity and loss of fungibility
☹ Restrictions on imports of RFG
☹ Disparity of treatment among refiners and marketers
☹ Existing high price for methanol which increases the price of MTBE, the oxygenate of choice for most refiners

We share the view that reformulated gasoline prices could increase between 10¢ and 20¢ a gallon for a time period ranging from a few weeks to several months until the price gets high enough to elicit additional supplies from higher cost producers. It is also likely that certain independent marketers, especially in the Northeast, could experience price inversions as their costs for RFG increase faster than the cost to refiners.

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1. "Crude Oil and the Price of Unleaded Gasoline," *FRSBF Weekly Letter*, Federal Reserve Board of San Francisco, December 30, 1988.

2. "Surviving Refineries Will Do Well, Oil Exec Says," *National Petroleum News*, February 1994.

3. "Time is short for U.S. pipelines to prepare for RFG shipments," *Oil & Gas Journal*, June 27, 1994, p.17.

4. *Ibid.*, p. 17.

5. "RFG price spread hits 8¢/gal. on supply fears," *U.S. Oil Week*, September 19, 1994, p. 3.

6. "Venezuela May Meet 2/3 of its RFG Goal," *Platt's Oilgram News*, September 23, 1994, p.1.

7. "The Challenge of Trade," *Weekly Petroleum Argus*," August 8, 1994, p.1.

Mr. SHARP. Thank you.

Mr. Buckley.

STATEMENT OF JOHN G. BUCKLEY

Mr. BUCKLEY. Mr. Chairman, it is a pleasure, as always, to testify before this committee. I come here today to ask for your help and the help of this committee to secure a small but vital change in the EPA regulations governing RFG.

As you are well aware under the EPA rules, as written, each refiner has its own baseline, which in turn is based on that refiner's 1990 data. Independent importers, whom I represent here this morning, that operate on the East Coast, of course, have no data. We weren't measuring for any of these pollutants in 1990; no one tested except for commercial specifications. So we have been assigned a baseline which is more rigorous and more stringent than individual refiner baselines.

Now, let me say here and now that we are in this fix, we are facing extinction because we did not participate in the reg-neg. The EPA is not out to get us. They had no idea their regulation would cause a basic restructure of the entire East Coast competitive market. All this was inadvertent, and we weren't there to tell them.

But, Mr. Chairman, please bear in mind that for 25 years every change in product quality brought about because of environmental rules—every change in industrial fuel sulfur level, every change in diesel fuel sulfur level, the phase-down and phaseout of lead in gasoline, the seasonal Reid vapor pressure changes—each change has treated like entities alike. The new rules, in every case, applied to all marketers, majors, independents, importers, everybody was shooting at the same market with the same product.

And bear in mind the companies I represent are small companies, mostly family owned. They don't have Washington offices. They don't have a stable of chemical engineers. They are just hard-nosed marketers. So they chose not to participate because they thought the industry would work this out, and then whatever the new rules are, they would apply to everybody and we would meet them because we always have been able to.

That is not the way it turned out. There are different rules. Everybody has their own rules. Fungibility is lost, the flexibility is lost.

Now, make no mistake, we have been in touch with our traditional contract suppliers over the last several months, weekly. We fed them our new specifications that have been assigned to us. One company that I represent has, over the last 2 or 3 years, had 12 different foreign suppliers in the United Kingdom and France and Italy and Spain and Brazil and Saudi Arabia. Not one will sign a supply contract for the specifications assigned to us by EPA. One or two have said, maybe next spring they will have a cargo. We can't operate companies on that basis. We have been able to offer equal quality product at a pump price lower than major brand stations. That is how we survive, that is what we live on.

Some of the independents I represent have well-known brand names, like Getty or Gulf. Others sell unbranded product. The largest of these independents is dependent on imports for 70 percent of its supplies. All now face a decline or cessation of operations if the current rule is not changed. We really only ask for equal treatment.

The solution we put to EPA was simple. We said, well, let's look at the average of all domestic refiner baselines. Mr. Wilson, in response to your question this morning, said that wasn't too promising because maybe the differences weren't great enough. Joe Kennedy said, let's punch through and solve this problem. That is what we have to do. If looking at district one to four is not the answer, there are other answers.

Your colleague, Mr. Markey, suggested a simple one, just change the current table which, in part, is based on California, to omit California. There are other exclusion solutions.

Mr. Chairman, a lot of people have talked about supply today. The DOE and EPA both admitted there could be some problems. I don't take a lot of assurance from the studies and the full testimony of those two groups, because they assume no refinery losses and no terminal losses on the East Coast. They assume a smooth transition.

The companies that I represent here this morning own 65 to 70 terminals on the East Coast, half of which store gasoline. If you knock those terminals out for lack of product, I can certainly foresee major problems. Imports here are still the key, the key to flexibility, and the DOE's own data shows that over the balance of this decade our gasoline imports are going to rise to a million barrels a day.

The DOE assumes in the report they gave to you this morning "a reduction in competition." That is us that they are talking about.

With the Venezuelan rule gone, a simple change such as we are suggesting is critical if supply dislocations and price spikes are to be avoided this winter. We are small companies, but important in the marketplace. The 6,000 or 7,000 stations we supply keep the lid on price spikes.

Mr. Rothschild mentioned the West Coast. You take a look at the California market and compare it to New York over the last 2 or 3 years, and you will see, from time to time, price spikes in California going up as high as 15 cents a gallon above New York. There is no independent market or marketers or importers in California. They are gone.

That is the kind of thing that we keep a lid on on the East Coast; because if we see a 5-cent price spike, we go out and buy a cargo, and we can start selling that cargo the next day. By the time it is getting here, three-quarters is already sold at something underneath that spike. We make some money and that spike comes down, and it comes down fast.

Mr. Chairman, it is inconceivable to me, even as we accept a full share of blame for our own situation, that the U.S. Government will allow us to be put out of business because of a 3-year transitional rule. In 1998, we all go back to the same product again; fungibility is restored, flexibility is restored, but we are gone. It is inconceivable that the U.S. Government will cause the demise of small business, that the U.S. Government will aid in the elimination of competition in the East Coast market. We ask your help in preventing these results.

That is the end of my testimony, but I did want to say, Mr. Chairman, I first came to Washington when I was working for a major company back in 1956 at the time of the first Suez crisis. And I have been coming back from time to time ever since. You have now been here for 20 years. And on behalf of all the witnesses who have testified before you over the years, I have to tell you that, as Joe Kennedy said, it has been a honor. Your honesty, your intellectual acumen, your fairness have been an inspiration to the industry that you interface with, to your colleagues, and to your staff.

The Second District can be proud of you; certainly, the great State of Indiana can be proud of you. You have served your country well. And on behalf of all witnesses who have testified before you during these years, I salute you and wish you well.

[The prepared statement of John G. Buckley follows:]

Statement of John G. Buckley on behalf of the Independent Fuel Terminal Operators Association

Good morning. I am John G. Buckley. I am representing the Independent Fuel Terminal Operators Association ("IFTOA"). IFTOA is an association of domestic, independent deepwater terminal operators with facilities from Maine to Florida. None is affiliated with a major integrated oil company. Many members of the Association are importers and blenders of gasoline and thus are subject to the Environmental Protection Agency's ("EPA") reformulated gasoline program. Members are concerned that the regulations will have the unintended result of weakening, or in some cases, eliminating independent importers and blenders from the East Coast market. As a result, supply difficulties are likely to occur; competition will be reduced and unnecessarily high prices will prevail.

The reformulated gasoline program will produce the most significant changes in the gasoline market seen in the last twenty years. The program will surely achieve the environmental goals set forth by the Clean Air Act. However, the Clean Air Act also mandated that the cost of the program and energy requirements be addressed. Accordingly, to prevent or minimize supply dislocations and unnecessary price increases, the Association recommends that the program be amended.

I. EPA Rule

Under the regulatory program, for the period 1995-1997, domestic refiners establish individual baselines against which to measure compliance of their gasoline production. In contrast, because domestic, independent importers and gasoline component blenders do not have sufficient data to establish an individual baseline, they are assigned a baseline. That assigned baseline is derived from the anti-dumping provisions of the Clean Air Act and was mandated by the regulations.

It is our understanding that the anti-dumping baseline is more rigorous than the individual baselines of most domestic refiners, especially those located in PADDs I-IV. It is with those refiners (those located in PADDs I-IV) that most domestic, independent importers and blenders compete. Accordingly, these importers and blenders are placed at a severe competitive disadvantage. As a consequence, they will not be able to play their traditional role in the gasoline market.

II. Role of Independents

Independent importers and blenders are a key element of the nation's gasoline distribution system. In particular, independents bring incremental supply to the market and typically do so at very competitive prices. Because independents have always had the flexibility to buy from either domestic or foreign sources, they have historically provided discipline to the market. If major integrated firms dominate the East Coast, there will obviously be less competition and consumer prices will rise. In contrast, the presence of independent importers and blenders in the market acts as a check on unnecessary price increases.

III. Supply

Currently, domestic independent importers and blenders account for about 57% of all gasoline imported into PADDs I-IV -- representing about 265,000 barrels of gasoline from abroad each day. If such importers and blenders cannot remain competitive because of the more rigorous baseline assigned to them, these firms will cease or restrict operations and those barrels could be lost to the American public. It is, of course, clear that domestic refiners will try to compensate for that loss. However, it is difficult to see how that large a volume can be produced domestically, especially during the beginning of the program in mid-winter.

In addition, the reformulated gasoline program is complex and confusing. It has significantly reduced flexibility in the market. The program restricts fungibility, and segregation requirements strain the distribution system in pipelines and certainly at terminals. As a result, there could be spot shortages of product, but more likely there will be supply dislocations that will disrupt the system.

Finally, some anticipate that foreign refiners will modify their operations and produce reformulated gasoline that meets the more stringent assigned baseline parameters. However, many of the Association members contacted European refiners in an effort to determine if this expectation was correct. They were told that while some had limited capability to produce reformulated gasoline, they had not yet decided whether they would do so. In addition, many had only a general knowledge of the program, but did not feel that they yet had enough information to make that determination. Some indicated they would consider supplying the U.S. market with reformulated gasoline if the price differential between conventional and reformulated gasoline were significant. All indicated that they wanted to "wait and see" how the program was implemented and how the market responded. None was willing to offer a contract as they currently do with conventional gasoline.

IV. Price

As the Subcommittee is well aware, a small shortage or dislocation can increase prices disproportionately. Even if the amount of gasoline produced domestically compensated for some of the loss from abroad, the cost of bringing this incremental supply of gasoline to market, most probably on Jones Act vessels, will be substantial -- possibly 2-4 cents per gallon above pipeline rates.

The reformulated gasoline program will result in U.S. consumers paying much higher prices for their gasoline. As the Subcommittee knows, crude oil prices have been increasing. Based on the January futures market, it is projected that crude will be nearly $18 per barrel in January, 1995 compared with $15 in January, 1994. This increase will translate into approximately 7 cents per gallon at the pump. In addition, the cost of making reformulated gasoline is about 6 cents per gallon more than those associated with the production of regular unleaded, primarily because of the oxygenate content. This projection of at least 13 cents per gallon does not take into account normal mark-ups or increased costs that may be incurred using Jones Act vessels or distribution costs to areas of the country such as New England where the product is usually shipped by barge from New York Harbor.[1]

Moreover, this estimate assumes the program will be implemented smoothly and bottlenecks will not occur. From discussions within the industry, it seems clear that there is substantial confusion about the program and its requirements. Even if everyone understands what is expected, it is unlikely that implementation during the first several months of the program can avoid problems. Bottlenecks and other difficulties could arise from (1) multiplicity of grades of gasoline; (2) increased strain on the storage and distribution system; (3) seasonal transition restrictions; (4) added financial liabilities that impede transactions; and (5) exchanges. In addition, this program begins at the height of the heating oil season -- a time when a cold winter and increased demand for that product already strain the storage and distribution system.

Finally, and most significantly, decreases in market competition from the loss of domestic, independent importers and blenders due to the regulatory assigned baseline will add an unknown, but probably substantial cost, to each gallon of reformulated gasoline. Thus, at the very least, it seems clear that reformulated gasoline could cost East Coast consumers in excess of 15 cents per gallon, compared to conventional gasoline. With the many concerns about increasing inflation damaging the economy, a 15 cent per gallon increase will have broad consequences. Moreover, as the Subcommittee is well aware, last year Congress was reluctant to raise the Federal excise tax on gasoline more than 4.3 cents per gallon. Substantial increases can sharply erode consumer support for this important environmental program.

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[1] See also, Charles River Associates Petroleum Economics Monthly (July, 1994) pp. 9-26.

Petroleum Industry Research Foundation, Inc. "Gasoline Prices: Why They Rose and Where They Are Going" (August, 1994).

V. Conclusion

At present, it is the opinion of the members of the Independent Fuel Terminal Operators Association that the current EPA reformulated gasoline program will result in supply and price difficulties on the East Coast. There seems to be a false sense of security prevailing here in Washington that despite the anticipated loss of much foreign supply, the substantial costs associated with the program, and the complexity of the program, everything will work smoothly and there will only be a few small glitches in the system. These views should be reassessed.

EPA has been working hard to inform the industry and the consuming public about this program. However, education is not enough. To minimize the supply, price and competitive problems we believe will occur, the Association recommends that the EPA amend its program and assign a new baseline to importers and gasoline component blenders -- a baseline derived from the average of domestic refiners located in PADDs I-IV. In this way, the Agency will retain the participation of the independent sector in the market, thereby minimizing supply dislocations and maintaining and fostering competition. The continued presence of domestic, independent importers and blenders will ensure that American consumers pay the lowest possible price for this new, cleaner gasoline.

Thank you very much. I would be pleased to answer any questions the Subcommittee may have.

Mr. SHARP. Well, thank you very much. Very kind of you. I am not sure they would universally all agree, but I appreciate your comment.

Mr. DiBona, happy to hear from you now.

STATEMENT OF CHARLES DiBONA

Mr. DIBONA. Well, Mr. Chairman, I certainly share the sentiments that were just expressed, and I think all of us here do. We have not always agreed, as you say, but I don't think there is a person in my industry who hasn't respected your integrity and your commitment and your dedication to doing the right thing. We all feel that way.

And I guess, as a personal note, I also might say that we both got into this business about 20 years ago. Kind of hard to believe.

Mr. SHARP. Are you getting out?

Mr. DIBONA. But I don't know anybody that I have more enjoyed working with, and I certainly want to wish you success in whatever you choose now to do. And I don't know what that is.

Mr. SHARP. Nor do I.

Mr. DIBONA. API certainly appreciates the opportunity to be here this morning to discuss implementation issues associated with the reformulated gasoline regulations of the 1990 Clean Air Act Amendments. But I have to admit, that this is one of the strangest hearings I have been to in 20 years that we have worked together.

Four years ago, as the Clean Air Act was before Congress, we raised questions about the workability of a number of its provisions. Nevertheless, the Congress passed the law. Since then, we have done everything we can in good faith to make the law workable. We actively participated in the Environmental Protection Agency's regulatory negotiation that included all of the parties—industry, government, State regulators, and environmentalists, and even Mr. Rothschild. Now here we are at the eleventh hour, and some of the Members of the Congress, and others who insisted upon all of these new formulations, appear to be predicting or at least fearing something approaching a disaster. And we, who initially raised the questions, but who are now charged with the responsibility of actually producing these fuels, putting them in the market and complying with the law, believe that we will indeed succeed in ensuring adequate supplies of qualified fuels.

The most troubling change would be that the public might believe you instead of us. If there is anything we learned 20 years ago, it is that the fear or expectation of a shortage can clearly create one. If everyone insists on topping off their tanks, there will be a shortage. And that applies not only to conventional gasoline and to reformulated gasoline, but also, as we learned a few years ago, to toilet paper.

If, on the other hand, the purpose of your hearing is to encourage EPA to rapidly complete its work in a way which helps us provide needed supplies rather than hindering us, that would be a true service. And it is the one thing that you really can do here in the eleventh hour.

And I was very pleased to hear your admonition and comment to Mr. Wilson. Our experience, or rather the experience that is related to me by the technical people that have been working this problem, do not completely support Mr. Wilson's answer on this. There is a very strong concern there about ensuring compliance and ensuring that no barrel escapes scrutiny. And I don't blame them for that, because inevitably they look over their shoulder to people up here. And if there were some failures in the quality of the fuel, they recognize that they could be severely criticized for that, and so they worry about that as well as the adequacy of supply.

And I think no better thing could come from this hearing than that you and your colleagues on this committee let them know in writing what your preferences are in terms of ensuring adequacy of supply. Not that we in any way are looking to not produce quality fuel, but we do think that there are elements in these regulations which could cause problems and do not need to. I mean small things. I am not familiar with all of them, but the requirement that you fill a tank and that the tank be completely full before you draw any fuel from it, when our biggest problem is probably going to be the adequacy of tankage.

Well, let me be clear, the petroleum industry is committed to improving the Nation's air quality, which, as you correctly again pointed out, as you usually do, that this was the point of the whole exercise. The implementation of RFG marks the fifth time in 20 years that the petroleum industry has introduced cleaner-burning motor fuels. We know RFG is the largest change in fuel or product composition that we have ever been required to implement. There is no dress rehearsal, and diesel fuel was not a dress rehearsal for this. Consequently, an enormous amount of manpower has been expended by our industry to meet the production, transportation and delivery requirements of the RFG program. And these extraordinary commitments will continue well into the future according to the NPC, the National Petroleum Council.

Between 1991 and the year 2000, refiners will spend 14 billion to make cleaner fuels. In addition, we will be spending money on stationary source problems. This includes expenditures for an even cleaner-burning version, of course, of the RFG that will be used in the late 1990's. Let me review the challenges that we faced.

First, EPA came out with the final regulations 3 years late. Incidentally, we got into the reg-neg in part because we wanted early certainty.

Second, the regulatory requirements for RFG are complex. For example, the final rule and accompanying documentation are over 1,000 pages long. The question-and-answer documents in areas needing clarification, as was earlier testified to, exceed 250 pages.

And third, refiners have not yet received EPA approval of their baseline specifying the parameters for each refiner's fuel. This is true even for refiners who submitted their baseline data to EPA as early as March of this year, well ahead of the June 1 deadline.

In addition to regulatory uncertainty surrounding RFG, there are new and evolving requirements that will have to be taken into account in producing the new gasoline; and again, having adequate lead time is important to us. These include the final rule on detergents, which is due October 15; and a requirement to reregister fuels and fuel additives due on November 27.

But despite these challenges, companies have been making the needed modifications to refining, transportation and storage facilities. We have been arranging for the supply of huge quantities of special chemical components needed to make the new fuel, and we have been planning the logistics of getting RFG to gasoline markets. And consequently, we believe the industry is well under way; and assuming expedited and reasonable EPA action on unfinished business, we expect to be ready.

And this is an important point that I need to emphasize. We still need EPA to clarify remaining issues, and with substantial enforcement fines or any mistakes on our part, we need EPA to resolve them without any additional delay. So although the government has not made our job any easier, the industry does expect to be able to supply RFG to the areas where it will be required by January 1, 1995.

Our members are committed to delivering quality products to their customers in sufficient quantities to meet their needs. We are doing everything possible to anticipate potential problems, taking actions to prevent them, and if any problems do occur, the industry will respond promptly to solve them. And we sincerely hope that the actions and words at these proceedings will not do anything to raise public fear about the introduction of this new fuel.

Thank you.

[The prepared statement of Charles DiBona follows:]

Written Statement of the American Petroleum Institute
Concerning Implementation of Federal Reformulated Gasoline Regulations
Submitted to the U.S. House of Representatives Committee on Energy and Commerce
Subcommittee on Energy and Power
September 29, 1994

The American Petroleum Institute (API) appreciates the opportunity to submit this statement discussing implementation issues associated with the reformulated gasoline (RFG) regulations of the 1990 Clean Air Act Amendments.

The petroleum industry has supported and continues to support control measures that are cost effective and necessary to achieve ambient air quality standards. RFG will be an important contributor to achieving standards in areas with the most severe air quality problems. It will go a long way toward significantly reducing smog and other mobile source pollution in the most densely-populated urban areas. RFG means cleaner air today, and the technology being developed by the petroleum industry will maintain gasoline as the fuel of the future for the vast majority of American motorists.

The combination of cleaner fuels and the increasingly cleaner cars that have been available since the 1960s means far fewer emissions from mobile sources will occur. This makes it possible to continue to improve air quality without restricting the personal freedom and flexibility that driving makes possible. By the end of this decade, the combination of cleaner fuels and new technology engine systems will have reduced average tailpipe emissions by 97 percent from precontrol days.

The petroleum industry has been called upon often to help improve the nation's air quality. RFG implementation marks the fifth time in 20 years that the petroleum industry has introduced cleaner-burning motor fuels. The phase-out of leaded gasoline and reductions in fuel volatility are two major examples that come to mind. In these and other cases, our industry has worked to provide products that both meet our customers' needs and improve the environment. Our industry will meet these same objectives with RFG.

RFG is the largest change in fuel or product composition that our industry has been required to implement. An enormous amount of manpower has been expended by our industry to meet the production, transportation, and delivery requirements of the RFG program. These extraordinary commitments by the petroleum industry will continue well into the future. According to the National Petroleum Council, between 1991 and 2000, refiners will spend $14 billion to make cleaner fuels. This includes expenditures for an even cleaner-burning version of RFG that will be used in the late 1990s.

The industry has faced a number of challenges regarding RFG implementation, which are described in the following. Yet despite these challenges, the industry has moved ahead so that its customers in the required areas will have high quality fuels in adequate quantities on January 1, 1995.

1. Limited lead time. RFG regulations were finalized this year. This is nearly three years beyond the November 1991 statutory deadline.

2. Regulatory complexity. The regulatory requirements for RFG are complex. For example, the final rule for RFG and accompanying documentation are over 1000 pages long. The question-and-answer documents produced to date by EPA to address areas in the final rule needing clarification exceed 250 pages.

3. Lack of approval of refiner baselines. Refiner baselines—which specify parameters for each refiner's fuel—were due to be submitted to EPA by June 1 of this year; however, even refiners who submitted baseline data as early as March of this year have not yet learned whether their baselines have been approved.

In addition to the specific regulatory requirements for RFG, there are other new and evolving requirements that will have to be accommodated in producing this new gasoline. These include the final rule on detergents, which is due October 15, and a requirement to re-register fuels and fuel additives due by November 27. Clearly, having adequate lead time to accommodate these requirements is important. It should also be noted that the transition to RFG will take place over a period of several months. Most RFG parameters will need to be met on January 1, 1995. However, the transition from winter to summer vapor pressure will occur next spring, several months after the initial introduction of RFG.

The necessary changes to implement the RFG program are well underway. The petroleum industry is working hard to manufacture and bring to market reformulated gasoline. Companies have been modifying refining, transportation and storage facilities, arranging for the supply of huge quantities of special chemical components needed to make the new fuel, and planning the logistics of getting it to gasoline markets. They have also complied with last-minute requirements changing fuel components, with new restrictions on mixing different gasolines, and with new sampling and other enforcement rules. They have changed their storage and distribution systems to accommodate many different varieties of reformulated gasoline while still providing conventional gasolines and the new low sulfur diesel fuel.

The government has not made these challenges any easier but API does not expect that there will be problems supplying RFG in the areas where it will be required. API members are committed to delivering quality products to their customers in sufficient quantities to meet their needs. They are doing everything possible to anticipate potential problems and to take actions to prevent them. If any problems do occur, the industry will respond promptly to solve them.

Mr. SHARP. Thank you very much, Mr. DiBona.

And your admonition is well taken on the question of public psychology and the marketplace. It certainly wasn't our intent, though I realize that that can be the result. I generally don't feel like the public is paying much attention to what we say, so I don't—I sometimes forget that we might actually have an impact on what happens.

And there is no question in my mind, and I don't think anybody has raised any question that the U.S. industry hasn't moved very aggressively, at great cost, to try to meet what are the legal requirements; and it is in the national interests, it is in their self-interest to serve that market.

And I think they unquestionably will be—and I have heard no dispute over the issue that there is adequacy of supply, though everybody has testified to how bottlenecks can occur. For those who speculate and try to hoard, they are likely to be losers, too, because they may be in the wrong place. They may be right where the supply is more than adequate, and so their hoarding will cost them, not gain for them in that process.

And I do think it is imperative that the EPA understand at this point the goal, the end game, is to make this workable. And it can be made more—closer to the perfection that one may hope for as it proceeds, but at this point, make it work.

And understanding making it work does not—it is not likely to be accomplished by a whole series of sudden orders and changes in things at the last minute. That is usually very difficult to pull off, is my impression, for them to be able to identify, as the example was given, that a supplier—match a supplier to an user. That certainly can be done and has been done, but not if—you have got dozens and dozens of places where that is what the market does, not what the government does; and it is very important to proceed in that fashion, it strikes me.

I don't know, from your perspective, because partly it belies, I am very concerned about Mr. Buckley's perspective on this and am inclined to think that the EPA ought to still examine that piece of the rule with the goal toward flexibility on the foreign baselines. My only reluctance is what I tried to point out on the House Floor, that we shouldn't be entering the game this late, the issue—we should not be engaged this late in the game. That was something that should have been decided quite early on so that everybody knew what the rules were.

But obviously we have long since passed that, and my only concern would be——

Mr. DIBONA. Well, there are actually two reversals on that, you know. I mean, there was an original rule; and then a reversal of the rule, and then a reversal by Congress of the rule.

Mr. SHARP. No, exactly, we have been through a series of those reversals. And, Mr. Buckley, my only concern about what you are asking is just, if EPA draws its resources off and we go through another round of things. But I think, in principle, you are generally correct that there ought to be a reexamination of the foreign baseline, because we already have the data coming in that has been collected by EPA, and we are going to respect the confidentiality under which that was given and not name companies. But it is very clear that the Venezuelan oil, while high, on average, is less than some folks who will be selling in the marketplace according to the new EPA things; and in other cases, they are—and if they meet the requirement of the national average, they will be substantially less than a number of the folks. And they cannot immediately meet that, but they will eventually probably meet that.

And it is not just a question of being fair to Venezuela; it is a question of as smooth an entry in this marketplace as possible. Though, I might just add, historically one should remember that Venezuela never cut us off in the embargo—their embargo years ago, even though they were members of OPEC. And we should not treat these questions lightly from that perspective, either.

Let me—I am not sure I have another question, since that wasn't a question.

Mr. BILIRAKIS. No, it was not a question.

Mr. SHARP. Does the gentleman from Florida have anything he wants to ask or say?

Mr. BILIRAKIS. Well, Mr. Chairman, first, I endorse the great comments that the panel has made, put in the record, regarding your stewardship of this committee. And——

Mr. SHARP. Poor Mike has to say this over and over and over. Thank you.

Mr. BILIRAKIS. I thought I said good-bye two or three times already. Here he continues to have these additional hearings. But certainly—and we have disagreed at times, too. You are not the only one, Mr. DiBona. But I certainly agree with the fact that when it comes to honesty and fairness—and eloquence, obviously—and smarts and that sort of thing, it has all been there. And I don't know who in the world is going to chair this committee in the future, but I think those are pretty big shoes to fill.

Mr. Chairman, there are so many questions. And this is a very significant issue, and I have learned by being here. So I don't mean to belittle the hearing.

Mr. DiBona is confused as to maybe the purpose of the hearing, and I guess I will have to admit, maybe I am a little confused, too, in the sense that here we are, this Congress finishing up, we don't know what the makeup of the committee is going to be in the future, and that sort of thing, but there is obviously a record here which is a good one, and I have learned and who knows what the future holds in terms of this committee's concerns, but I do think that the answers to these many questions that I have and probably many that you have that you haven't asked are going to be of that much more value, I would think, in the subsequent Congress.

And so I would ask unanimous consent that we might have maybe 3 days to submit a series of questions to all of these gentlemen, maybe give them 30 days after that to respond, giving them plenty of time. Because again we are asking you—hopefully, we are open-minded. I know we are talking about changing horses in the middle of the stream conceivably and things of that nature, but hopefully, we are open-minded. And if we are, then your answers, your responses obviously would be very significant.

I would just maybe dwell on one thing very briefly; and that is, I would ask maybe Mr. Gushee, I suppose, there have been foreign refiners who have upgraded their refineries to be able to meet the requirements of RFG; have there not?

Mr. GUSHEE. Yes, sir.

Mr. BILIRAKIS. Well, now can we go into—is a fairness issue maybe pertinent here in terms of some have gone into that and others have not, now if you give a break to those who have not, is that a fairness issue? Is there a fairness issue?

Mr. GUSHEE. I think the big problem is transitional, because a lot of refineries are proposing to be fully ready by the late 1990's. And so if you have to get ready for 1995 in a way that is not optimal for 1998, you tend not to do that. And I think PDVSA, for example, is in that situation.

Mr. BILIRAKIS. Well, now, those that have already done so, you know, we have—the rules were not signed until late 1993. Certainly those that have upgraded started before that point, I would imagine; did they not?

Mr. GUSHEE. Well, the upgrade is a continuing process. It is a rolling process. And I wouldn't say that anybody had already upgraded to the ultimate level that they will have to get. You do one unit here and another unit there, and you do it sequentially. And that is where I think most of the refineries are that I have reviewed, partway along.

Mr. BILIRAKIS. I guess, you know, Mr. Buckley, you were—you said it very well; there is no question about that. But you know, the question of course also arises—and I honestly don't know to what effect Venezuela has made any—taken any steps to upgrade their refineries, but we know what—I understand Canada has already taken steps towards that end, and apparently others have, too. So, you know, from that standpoint, when these others—certainly American refiners have gone to the expense to upgrade, some foreign refiners have gone to the expense to upgrade; and now we have other foreign refiners that have not gone to the expense to upgrade and we are talking about giving them—well, I don't know whether you would call it a break or not. I guess it is all in the eyes of the beholder, but still at least treat them a little differently.

Any response?

Mr. BUCKLEY. Well, let me say in response to that that the foreign refiners that we have contacted over the last several months, since the Venezuelan rule was proposed and the EPA announced their May 23 hearing on that subject—when we gave those foreign refiners the specifications that had been assigned to us under the EPA rules, in every case it was the first indication they had ever had of what the spectra were even going to be. They hadn't been involved in this process. They are going to wait and see. Get a big enough price spike, some of them may jump in next spring.

But let me make it very clear that I understand Congress' vote on the Venezuelan rule, and that is not on the table right now. What is on the table right now, as Mr. Wilson says, that they have been looking at, and what this committee can have an impact on right now, is the proposal that we put forth at the hearing on May 23, before EPA; because when they asked for comments on Venezuela, they also asked for comments on any other aspect of the import picture. And at that point, we testified, hey, for independent importers and blenders, there is a very serious problem that we haven't brought to your attention and that you inadvertently have caused by these regulations. You are going to put us out of business.

And, you know, mea culpa, we didn't participate in this process because we have never seen regulations that treated like entities differently, but this is the exception that proves the rule; and we are down the drain.

Now, they are still looking at that proposal. And Mr. Wilson suggested this morning there may not be enough to gain to adopt our proposal, to make us survive. But as Congressman Kennedy put it, you know, let's find a way, let's find the flexibility. There are several ways you can do it. You don't have to accept our suggestion, which was, give us the average of all refiners, districts one to four.

The DOE commented this morning that about two-thirds of the RFG that is going to be used in the northeast is going to be produced by East Coast refiners. And about a third of the balance is going to be from region three—Texas-Louisiana area. OK, maybe EPA should look at those percentages and look at the average refiner baseline—two-thirds East Coast, one-third Gulf Coast—and see how that makes us look. We have got to find a way to punch through and just make that one paragraph change which is on the table now; and if this committee will support us in seeking that flexibility from EPA, we don't have another go-round here.

The issue is on the table now. We don't need to have a whole new finding. The Venezuelan rule that was knocked out affected foreign refiners. It did not and does not prevent the Department from changing the regulation to give independent importers and blenders a more even chance of surviving.

Mr. SHARP. Mr. DiBona.

Mr. DIBONA. In this hearing, there has been one side elaborated on with regard to the matter of imported gasoline as opposed to domestically produced gasoline. But like all issues, there are two sides. And maybe I might just take a minute and kind of describe the other side of this issue.

When the discussions were going on about how we would—in the reg-neg and subsequently, about how the controls would be put on these other parameters during the period of time that we are operating under the single formula, it was—it became clear that you had to separate foreign and domestic refiners for the following reasons. As they took the domestic situation, they—it was decided that each refiner would use its own baseline and that—and that was—and therefore you would keep the average for the United States based on that baseline. This was a—this was a reasonable procedure for the domestic refiner, because essentially all of the volume he had was used in the United States.

There is very little exporter of that fuel. So without major investment, the volumes would not change and therefore if you use the base—if each company used its baseline and the volumes were not changed, you would keep the average during this period of time.

It was possible—it was then a question of how you measured that, and there were a number of methods of measuring that. One of them was method one, which is the actual data from the gasoline in 1990. The second was to use method two, essentially permitting you use the blending agents, all of the blending stocks. And as all of that was sold in the United States, then the blending—a blending stock was a reasonable measure of the level of these factors.

Now, that meant that there were some companies who were above the average and some companies that were below the average, that were cleaner than the average. Those companies that were cleaner than the average you might argue were disadvantaged. They were a loser in this. They chose not to whine about it and to accept it and to move forward. And that is what they are doing.

When you turn to the foreign side, you had a somewhat different problem. You do have a measurement problem, and the measurement problem is of two kinds. One of them is that EPA has a lot more control over a domestic refiner and it is easier to get into the books. And to think that an EPA person would be able to go to Venezuela or some other place and have the kind of access and to be able to come in unannounced is—or that we would have as much control of all of the people who make the measurements and that the control of the people making the measurements is the same and the legal restrictions on them are the same is hard for me to quite believe.

But, second, they were permitted to do that if they could demonstrate using method one. The problem there with using method two, which was to use the blend stocks, is the blend stocks don't tell you what that fraction of the oil that was delivered to the U.S. contained. And therefore it was not a good measure of what was delivered into the U.S. market. The use of the average, therefore, was adopted. You could either use method one or the average. This was the original rule, and that is now the rule.

The choice of—while that might cause some problem for some refiners—and PDVSA was one of them—there was a belief that it was less of a problem because a foreign refiner, like PDVSA, which has a very large volume and is delivering into the United States a very small fraction of that volume, was not under the same controls with regard to antidumping. That is, all of the other fuel that it sells in other places in Venezuela or delivers to other countries was not subject to the same antidumping rules as an American refiner was. So it could strip its production and send to the United States that part of its production which has lower numbers for these particular quantities.

So there was a clear benefit to them. They were not restricted, as were domestic refiners, in that area. So as a consequence of these factors, it was believed that this was a reasonable way to go.

Now, since this time—I should add one other thing. You asked the question about making investments, Mr. Bilirakis. One of the problems that PDVSA has had in making adequate investments in a hurry is it restricts the investment in its refineries to equipment that is provided by the country and does not accept U.S.-built equipment to be used to upgrade its refineries. And that is a distinction that also bears on these questions.

Finally, they have announced already that they will deliver into the country 52,000 barrels a day. Last year, their delivery was 40,000 barrels a day. So they are talking about a 25 percent increase in the volumes to be delivered into the United States in

1995, compared to the last data we have, which is 1993. Now, that is less than the 1990 volume, which was larger, which might add another 25 percent to that number. So I simply make that set of points.

Now, in addition to that, none of the other countries exporting into the United States raised a question about the problem. And Canada has already, Urban Oil of Canada has already announced that it will deliver 45,000 barrels a day into the United States next year and said that it will not raise any question under NAFTA.

Mr. BUCKLEY. If I could just respond for a moment, I have no argument with virtually anything Mr. DiBona has said. We are not asking the EPA to give foreigners anything. We are asking them to give us a baseline we can live with. We will certify, and we will stand here domestically, totally within their control, so there will be no implementation problems that you would have when you get into extraterritorial jurisdiction with foreign refiners.

It is true that Irving is going to continue growing, and they are already the largest marketer in Maine. I just feel that a way has to be found here not to do permanent damage to the competitive fabric because of a 3-year transitional rule; and a way has to be found for the EPA to give us a baseline that we can survive with, rather than the one that has been assigned to us now.

Mr. SHARP. Well, I think I am going to recognize my colleague from Oklahoma in just a moment. I need to—I am going to turn the Chair over to him to ask his questions before we close. I need to go to another meeting.

I just do want to indicate, my colleagues asked the purpose of the hearing and whatnot, and rightfully so. It isn't within the expectation this Congress will act obviously, and it isn't within the expectation of laying the groundwork for the next Congress, since I think that will—if everything works easily, nobody is going to care next Congress. If it doesn't, they will get information readily on their doorsteps.

The real thing here is to help make sure that at EPA, which has the primary focus of enforcement here but DOE backup, they appreciate and hear a few voices. They have heard a lot of voices that were very concerned about that this may environmentally leak, and therefore, we have got to be just as tough with penalties and just as strong in making this work.

I think they are understandably concerned about making it workable so they don't lose public support, but that is not their chief focus. That is not their mandate. That is not their culture. And at this stage to get this implemented in an effective way and sustain public support, it is in my view imperative that they recognize the need for market flexibility because our goal is a longer-term one than how—what happens next January.

And, as Mr. Rothschild indicated, the bumps that may come in individual markets on prices, frankly unless they are just extreme, should not be our focus either. I mean, because that is the nature of making the market work and transition is inevitable. But it is, rather, trying to see to it that we just make this as effective as we can.

I am not sure our hearing can offer much to that, but I think it doesn't hurt them to hear that they need to be listening intently to workability at this stage of the game if they weren't earlier.

With that, let me turn it over to my colleague, Mr. Synar.

Mr. SYNAR [presiding]. I apologize for being late. I didn't hear all the testimony, but I did review it last night. And I would ask unanimous consent to enter my statement into the record.

Mr. DiBona, let me start with you. Many of your member companies have claimed that the Venezuelan gasoline, supposedly dirty gasoline, is unlike their own products, and many Members of Congress, I think, believed them. What I want is know is, of the 88 refineries which have reported to EPA so far, how many of them would you say meet the foreign refiners' baseline for olefins, sulfur and T90 that you want Venezuela to comply with?

Mr. DIBONA. I don't know the answer to that question, because I don't——

Mr. SYNAR. Why don't you make a guess for us?

Mr. DIBONA. Well, I don't like to guess about things I don't know about. And I am not permitted to have that data, because it is not releasable to me under the Trade Secrets Act.

Mr. SYNAR. Well, I have that data before me right here. And the numbers are that for the domestic—88 refiners reporting, only 16 met all three of the baseline standards to which you and your members would hold Venezuela; and that is less than 20 percent. Would you argue with that number?

Mr. DIBONA. I have no way of knowing whether that is the right number. But I don't know that it is relevant.

Mr. SYNAR. All right. U.S. refiners——

Mr. DIBONA. It is not relevant because it is the character of an average——

Mr. SYNAR. You have argued that theirs is dirtier, Mr. DiBona; you have argued that theirs is dirtier, and you have made the case to Congress.

Mr. DIBONA. All we have argued is that American refiners must meet their own baseline. There are some that are above the baseline, some that are—excuse me, are above the statutory level, some that are below the average. It is the characteristic of an average that some are above it and some are below it. And when you have three parameters, finding that 20 percent, only 20 percent, if this is the case, have not more than one of the three characteristics—not all of the three characteristics below the average—is exactly what you would expect from an average of that kind. It is an observation about the statistical process and bears no——

Mr. SHARP. Mr. DiBona, let's move on, if I could. Thank you.

Mr. DIBONA. It does not mean—we don't need a hearing to determine that. We could have determined that by looking at a statistical textbook.

Mr. SYNAR. OK, thank you. The U.S. refiners based their claims about Venezuela's supposed dirtiness on the olefin levels. How many U.S. refineries, Mr. DiBona, do you think exceed the foreign refiners' olefin levels based upon those companies' own reports to EPA?

Mr. DiBona. Because I don't have access and it would have been an illegal act for a government official to have given me that data, I do not know it.

Mr. Synar. Well, the answer is 59; 59 out of 88 didn't meet those standards that you want Venezuela to meet.

Mr. DiBona. Again, it is irrelevant because it is the characteristic of statistics that some of the numbers are above the average, some are below the average. And so it is not surprising that——

Mr. Synar. Let me ask you this.

Mr. DiBona. [continuing] we have three factors——

Mr. Synar. Mr. DiBona.

Mr. DiBona. Yes. I am trying to answer your question.

Mr. Synar. No, you are not; you are trying to filibuster.

Why do you think foreign refiners such as PDVSA should have to meet standards that the U.S. companies don't have to meet? Isn't that discrimination against foreign products?

Mr. DiBona. I don't believe it is discrimination, and I think if you had been here earlier, you would have heard my explanation of how this thing had developed. And it was a sensible and reasonable thing that was developed by EPA initially.

Mr. Synar. Mr. Rothschild, do you have any comments to that last change?

Mr. Rothschild. Well, as we all know, EPA doesn't work in a vacuum. EPA developed its comments as the result of a lot of input from various fact sources, including the members of the American Petroleum Institute. The bottom line is that the data you have clearly indicate that when companies like Sun and Mobil came up and were yelling and screaming about dirty Venezuelan gas, if they are one of those companies, or even some of the other companies are, the fact is that Venezuela should be treated in the same way. We should not be treating a foreign refiner any better or any worse than domestic refiners. And I think domestic refiners found an opportunity to discriminate against a foreign refiner, primarily because of a marketing issue. And if you note that Sun and Mobil are the—or Mobil and Sun, I haven't seen the latest data, are the two largest marketers in the northeast—Citgo, which is owned by Venezuela, is one of their competitors. This provides Citgo with a competitive blow from which they will have to find other sources of supply to compete with Mobil and Sun. That is the issue here. This is not an environmental issue.

Mr. Synar. Mr. DiBona, I would like you to guess at the highest level olefins reported by a U.S. company. What do you think it is?

Mr. DiBona. I have no idea, and I have no basis for knowing what that number is.

Mr. Synar. Would you——

Mr. DiBona. I don't have access to that data because it would be a violation of the anti—of the Trade Secrets Act for anybody to have given it to me.

Mr. Synar. Well, by volume—30 percent by volume, the second highest was 28 percent. Are you shocked by that?

Mr. DiBona. I am not shocked that there is—there are companies that are above the average and below the average. It would amaze me if a statistical average didn't have that characteristic.

Mr. SYNAR. You will agree that these permitted U.S. levels are quite higher than PDVSA's levels; will you not?

Mr. DIBONA. I have no idea what these numbers are, so it is impossible for me to comment on them.

Mr. SYNAR. Is it true or not true——

Mr. DIBONA. I just don't have that data, and I don't know whether these are large companies or small companies, where they are located, what piece of data you are referring to. I just have no way of being able to answer a question like that.

All I know is that there must be companies that have very low numbers relative to the average; otherwise, it wouldn't be an average.

Mr. SYNAR. Isn't it true that U.S. companies are not too good when it comes it sulfur, either, that about one-third of the companies exceeded the statutory baseline for sulfur, with many of them two to even three times that standard?

Mr. DIBONA. Well, it is interesting that only one-third exceed the statutory baseline. That suggests that two-thirds are below it.

Mr. SYNAR. Now, when you and API launched your campaign against foreign gasoline, did you know all the facts which we have just explored?

Mr. DIBONA. It wasn't necessary to know those facts. If you were listening to my earlier explanation, you would understand why that is the case.

Mr. SYNAR. Surely you tried to learn about these facts before you started putting information out; did you not?

Mr. DIBONA. Those facts are not relevant to the arguments we made.

Mr. SYNAR. Mr. Rothschild, do you agree with that?

Mr. ROTHSCHILD. Well, I think they are very relevant. I mean, if there are some domestic companies using individual baseline and arguing that they are going to reduce that baseline, the 1990 baseline, by 15 percent; and they in fact have higher volumes or higher percentages of these pollutants, they are just as dirty or dirtier than Venezuelan gasoline, which we are trying to keep out.

Mr. SYNAR. So it gets down to, as you say, an issue of not environmental issues, but more of market share.

Mr. ROTHSCHILD. If, in fact, the Venezuelans had the data, the EPA could audit the data and determine that the Venezuelans could improve their gasoline in compliance with the law the same way that the domestic refiners could, then they certainly should be allowed to do that. It is my understanding that that is what the Venezuelans are willing to do, and that is not what companies were arguing for; they were arguing to hold Venezuela to a higher standard, namely the statutory baseline.

Mr. SYNAR. Mr. Buckley, Mr. Gushee, do you believe some refiners and marketers are at risk of going out of business because they will find they are unable to obtain the RFG or the RFG components at costs equivalent to their large, integrated competitors?

Mr. BUCKLEY. Yes, I do, Mr. Synar. I have already testified here today that the eight or nine companies that I represent who are importers by tanker and by barge of foreign gasoline, as—well as using domestic, but roughly 50 percent-dependent upon foreign—companies who market under the name of Getty and Gulf and companies who market unbranded gasoline on the East Coast market, are very, very severely impacted by the current rules. And we do not expect to survive, because the baseline assigned to us is more stringent than that assigned to domestic refiners that we have to compete with. And we have not been able to find foreign refiners who can and are willing to sign contracts with us for our gasoline requirements starting in December. We are facing a very critical situation.

As I mentioned, we have 65 to 70 terminals on the East Coast, half of which run gasoline. If you take that piece out of the East Coast market, I can certainly foresee very serious supply and price-spike problems hitting in January when this program goes into place.

Mr. SYNAR. Mr. Gushee, what about you?

Mr. GUSHEE. I don't know anything—I did not know until very recently that the problem is as severe as alleged by Mr. Buckley, but certainly the driving forces both increase the price and decrease the supply. Therefore, you would expect something of that nature as a response.

Mr. SYNAR. So we—we should expect to see significant price increases in January because of this?

Mr. GUSHEE. Larger than in the absence of this, yes.

Mr. SYNAR. Mr. Rothschild, do you agree with that?

Mr. ROTHSCHILD. Yes, that is one of our concerns, that as you limit supply or put people in precarious positions because of the rule, they are either going to desperately try to survive, which means they are going to bid up the price—we have seen that happen in numerous occasions and that is the way prices respond. We are not going to have real shortages; we are going to have price spikes. And everything you do to deprive either a segment of the market or the overall market of supply or flexibility is going to result in one message, and that is going to be a kick up in price.

Mr. SYNAR. Mr. Verleger, let me ask you this: I guess the bottom line and the reason for the hearing today, given all this, should we be concerned about all this or should we just let it play out?

Mr. VERLEGER. I think you should be very concerned about this. I have been listening to the discussion on the import issue, and I spoke briefly about it. And from an economic point of view, I think the free trade argument wins as it always does. We don't hold Mercedes' poor fuel economy on its cars it sells in Europe against its CAFE standards.

The same thing should apply on gasoline; all foreign refiners should have the same baseline. I think the more important issue on this, though, is probably the stringency of the EPA regulations. The message that this committee needs to send to EPA is in enforcing the regulations, be flexible, be much more flexible than they are. Because if they are not, the terminals that are operating, whether they are Mr. Buckley's terminals or the other terminals, are going to be going slower. The fuel is going to be getting out much less quickly, and consumers are going to be paying much higher prices than they need to pay to get the clean air.

Mr. SYNAR. You know, the—I agree with your argument. I think that we have to send some messages to a lot of people here today. I think the problem, and maybe you can help us through this, is that obviously some are meeting some standards, some are meeting other standards; and the question is, how do we get them to do what obviously is achievable and to do what I think is clearly what we have in mind? I mean, how do we get everybody pulling on the same end of the rope?

Mr. VERLEGER. Sir, I study this. I am an economist; I watch from the sideline. I think that strong advice and counsel to EPA on these regulations, that there are going to be some problems in the first year, some imperfections—oxygen standards won't be hit, RVP standards may be missed, toxic standards may be missed—and to be flexible, and not to impose large penalties. But in fact not to impose penalties at all, but essentially allow the system a year to work, is the message that really is required.

The oil industry, whether it is the domestic side or the import side, will do a very careful job to make sure it comes as close as they can; but they are less focused on the penalties and the costs of making a mistake, and we don't want to make the cost of making a mistake too heavy.

Mr. SYNAR. Mr. Bilirakis.

Mr. BILIRAKIS. Thank you, Michael. Well, is much of the problem, Mr. Verleger, the result do you think of—well, was EPA timely in terms of their regulations?

Mr. VERLEGER. I understand that EPA has been very tardy in terms of its regulations.

Mr. BILIRAKIS. As related to the January 1, 1995 implementation?

Mr. VERLEGER. Right. They missed their deadline, but they haven't changed the industry's deadline one bit. That is the way the regulators always work.

Mr. BILIRAKIS. So this flexibility that you are basically pleading for is intended for domestic as well as the foreign refiners; is that right?

Mr. VERLEGER. Yes. I am not pleading for, but free trade is the best thing for consumers, and so, you know, the whole goal is to make the economic system work as efficiently as possible. So you want the flexibility on both parts.

Mr. BILIRAKIS. Well, I know just off the top of my head that regulations that are signed in December of 1993 to implement something as complex as this, just basically a year later, is insanity; that is right. And I think that is where—maybe the biggest message that comes from this hearing.

Thank you, Mr. Chairman.

Mr. SYNAR. Mr. Verleger, 2 months ago you made the following statement: "A loophole exists for domestic refiners that import gasoline. These firms are allowed to use the baseline established for their domestic gasoline production when they import conventional, not reformulated, gasoline. Thus, a refiner producing conventional gasoline with a high olefin content would be in compliance with the regulations if it purchased and imported Venezuelan conventional gasoline with high olefin content, while Venezuela would be out of compliance with that program if it imported its own product."

Do you stand by that statement?

Mr. VERLEGER. That was my understanding of the regulations then. I vetted it through two lawyers and up.

A domestic firm may import gasoline meeting its baseline, as I understand it, on conventional non-antidumping gasoline, up to the level of its 1990 imports.

Mr. SYNAR. Let me thank all the gentlemen who are before us for your testimony today.

This concludes today's hearing, and I think we did learn something about what was really going on.

[Whereupon, at 1:20 p.m., the subcommittee was adjourned, to reconvene at the call of the Chair.]

[The following material was received for the record:]

RESPONSE TO QUESTIONS FROM CONGRESSMAN SHARP:

FROM: DR. PHILIP K. VERLEGER, JR.

NOVEMBER 3, 1994

I. SOME OF THE EFFECTS OF THE RFG PROGRAM ARE HIGHER COSTS, REDUCED OVERALL SUPPLY FLEXIBILITY, AND REDUCED NUMBERS OF SUPPLIERS IN SOME MARKET AREAS. IT IS POSSIBLE THAT THESE EFFECTS WILL LEAD TO GASOLINE SHORTAGES IN SOME REGIONS OR LOCALITIES. HOW CAN WE REDUCE THE RISK OF SHORTAGES OR PRICE SPIKES?

A. The risk of shortages and/or price spikes can be reduced by announcing the steps that will be taken to ameliorate problems. For example, under §80.73 EPA can establish a fine to be paid by a refiner, importer, or oxygenate blender for selling product that does not comply with the regulations in extraordinary circumstances. EPA should specify now what the fine will be and define the conditions under which a firm could apply for an exemption. Announcement of such an adjustment would substantially reduce the likelihood of large increases in prices over short periods of time.

2. HOW DOES EPA's PROPOSED ENFORCEMENT SCHEME INCREASE THE VULNERABILITY OF THE GASOLINE DISTRIBUTION SYSTEM? ARE THERE LESS ONEROUS METHODS OF ENSURING COMPLIANCE WITHOUT OPENING CUSTOMERS UP TO THE RISK OF SHORTAGES OR PRICE SPIKES?

A. EPA's proposed enforcement system literally provides less protection to the oil industry than that provided to indicted offenders of the nation's narcotic laws. "Presumptive liability" will require that companies conduct an unnecessarily large number of tests that will reduce the throughput at storage facilities Further, individual companies have a greater incentive to store their product in segregated facilities, effectively reducing the overall capacity of storage facilities. Both these changes will cut capacity and tend to lead to higher prices

Given the industry's long-term history of compliance with regulations, EPA initially should have shown much greater flexibility, requiring only random tests The regulations could then have been tightened later if tests at filling stations had revealed systematic widespread violations

In part, EPA's response results from its regulatory bias and the failure of Congress to instruct it to show some flexibility EPA is faced with the problem of either

(a) establishing a system that catches every gallon that fails to comply or

(b) establishing a system that detects systematic violations but allows minor mistakes through

Choice of option (a) would slow the distribution system and raise consumer costs potentially by billions per year, while choice of option (b) would lead to a minor - potentially undetectable - loss in air quality at a much lower cost

3. HOW WOULD YOU PROPOSE DOE OR EPA RESPOND TO AN ACTUAL OR PROJECTED SHORTAGE?

A. Shortages are unlikely to occur Very high prices are, however, almost a certainty at times. Consumers in some areas may - emphasis on the word may - be forced to pay $2.00 per gallon for short periods. EPA and DOE can meet these problems by announcing ahead of time the remedies that will be permitted For example, EPA and DOE could announce that refiners, importers, or blenders will be allowed to sell conventional anti-dumping gasoline in designated areas at any time if they pay a specified per-gallon fine to the U.S Treasury. I understand that the California Air Resources Board is using such a strategy for refiners that cannot produce diesel fuel meeting CARB diesel specifications

4. HOW HAS EPA'S DELAY IN ISSUING A FINAL RFG RULE AFFECTED THE ABILITY OF REFINERS AND DISTRIBUTORS TO MEET THE JANUARY 1, 1995 DEADLINE? IF EPA HAD ISSUED ITS RULE WHEN IT WAS REQUIRED TO, WOULD REFINERS AND DISTRIBUTORS HAVE BEEN ABLE TO TAKE STEPS TO REDUCE OUR VULNERABILITY TO PRICE SPIKES AND SHORTAGES?

A. At this time I am not able to precisely quantify the impact of EPA's delay in issuing the final rules. The transition would certainly have been smoother if EPA had complied with the schedule mandated by Congress Nonetheless, it appears that the industry will be able to comply, although at much higher costs

The failure of EPA to comply with the Congressional mandate demonstrates yet again the lack of financial incentives offered to bureaucrats In the future, Congress should consider making individual bureaucrats responsible for delay - say by threatening pay reductions or reductions in accrued retirement pay to those senior officials who totally disregard Congressional mandates in the way EPA bureaucrats failed to comply in this instance.

5. WHAT IMPACT DOES THE LACK OF APPROVAL OF REFINER BASELINES HAVE ON THE ABILITY OF REFINERS TO COMPLY WITH THE RFG RULE?

A. The failure to approve refiner baselines is unclear. A logical refiner experienced with EPA's arbitrary and capricious implementation of its regulations would be well advised not to manufacture or ship RFG until its baseline had been approved. Such a strategy is likely to be in the best interest of the refiner's stockholders but would impose very large costs on consumers. However, many firms appear to be willing to ship without approval. Thus, while the failure to approve the baselines seems unlikely to have much of an impact on supply, it may result in large future losses to stockholders.

6. COULD YOU PLEASE DESCRIBE HOW EPA'S COMPLIANCE PROCEDURES WORK WITH OR IMPEDE NORMAL REFINERY OPERATIONS?

A. As I have no experience in the physical operation of refineries, I feel it is inappropriate to respond to this question.

7. HOW WILL THE REDUCED FLEXIBILITY RESULTING FROM THE RFG RULE AFFECT CUSTOMERS IN THE LONG-RUN?

A The reduced flexibility resulting from the RFG rule will reduce refining capacity, the number of refining firms, and competition. As a consequence, consumers will ultimately pay billions per year in unnecessarily higher prices for gasoline.

8. DO YOU BELIEVE THE PROPOSED EXEMPTION FOR THE VENEZUELA REFINERS WOULD OR WOULD NOT HAVE GIVEN THEM A COMPETITIVE EDGE OVER DOMESTIC REFINERS? EXPLAIN

A. It is impossible to answer this question International competitiveness depends on a multitude of factors including the cost of capital, cost of local labor, productivity of local labor, flexibility of the production process, diversity of inputs, management structure, etc. Environmental regulations constitute but one of these factors. Economists advocate free trade because it is impossible to measure and appropriately adjust for each of these factors on a case-by-case basis

9. IF THE VENEZUELAN EXEMPTION HAD REMAINED WHAT IMPACT WOULD THAT HAVE HAD ON OTHER FOREIGN REFINERS WHO UPGRADED THEIR REFINERIES TO BE ABLE TO MEET THE REQUIREMENTS OF THE RFG RULE?

A. It is likely that RFG will be required by other nations. Thus, foreign refiners will eventually add capacity to produce the fuel. Implementation of the foreign baseline rule for foreign refiners would probably have accelerated foreign refiner investment in capacity to produce the fuel, but it is impossible to predict the effect.

10. WHAT IMPACT DOES THE RENEWABLE OXYGENATE STANDARD HAVE ON REDUCING OUR RELIANCE ON FOREIGN OIL?

A. None! I doubt that the renewable oxygenate standard will have any impact on our energy dependence unless the rule causes a very substantial price increase (or lines at the pump) that resulted in reduced consumption. The assertion by EPA in its ROS rule that implementation of the ROS mandate would cut imports is possibly the most egregious example of analytical prevarication ever committed by a regulatory agency.

11. HOW DO YOU EXPECT THE GASOLINE DISTRIBUTION SYSTEM TO RESPOND TO THE NEW DEMANDS BEING PLACED ON IT? WILL WE SEE NEW TANKS AND PIPELINES BEING CONSTRUCTED TO RESPOND TO THE MORE COMPLEX STORAGE PROBLEMS PRESENTED BY THE RFG RULE?

A. The gasoline distribution system is very flexible and historically has proven able to respond quickly and efficiently to changes in regulations. As a consequence, the consumer has borne few of the costs of increased regulation However, the likelihood that the system will continue to be able to respond is now questionable. I have three reasons for expressing this doubt. First, the public is less willing to tolerate the construction of pipelines. Second, EPA air quality regulations make it difficult if not impossible to construct new tanks in most urban areas. Third, the industry's financial condition is becoming more precarious. As a result, I do not believe it is likely that new storage facilities will be constructed.

12. WILL FOREIGN REFINERS UNDERTAKE REFINERY UPGRADES TO PRODUCE AND IMPORT RFG? IF THEY ARE, HOW DOES THAT IMPACT THE VIABILITY OF THE INDEPENDENT TERMINAL OPERATOR?

A. Foreign refiners will undoubtedly construct facilities to produce RFG because other countries will adopt U.S. regulations. They will export product to the United States as long as terminal facilities are available.

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October 27, 1994

Response to Mr. Bilirakis' Questions

Questions 1-3 and 6

I am not in a position to answer these questions.

Question 4. How has EPA's delay in issuing a final RFG rule affected the ability of refiners and distributors to meet the January 1, 1995 deadline? If EPA had issued its rule when it was required to, would refiners and distributors have been able to take steps to reduce our vulnerability to price spikes and shortages?

The delay has not been critical for refiners, aside from the uncertainty about the role of renewable oxygenates. The general requirements have been clear for about two years, and the last minute fine-tuning has not been of the type which would require changes in physical production facilities. It is not clear what effect more time would have had with respect to the distribution system. It would have enabled the construction of more terminal tankage than has been constructed, but whether that opportunity would have been used is not certain. The industry would undoubtedly prefer a system which will allow a smaller number of individual product batches which must be kept separate from each other and tracked from refinery to service station. Additional tankage may not be needed in a few years when the new requirements have been assimilated and product fungibility might be reestablished. A go-slow approach to building additional tankage appears to be a common company position at the moment. Alternative, temporary arrangements are being made instead.

Question 5. What impact does the lack of approval of refiner baselines have on the ability of refiners to comply with the RFG rule?

Not having an approved baseline means that the refiner must either be unsure of the acceptability of the batches of RFG dispatched from the refinery prior to baseline approval or must make the RFG cleaner than might be required under his proposed baseline. In the former case, adjustments in composition can be made downstream from the refinery, if necessary, at some expense. If the latter, additional expense would be incurred at the refinery, even if subsequently found to be not necessary.

Question 7. How will the reduced flexibility resulting from the RFG rule affect consumers in the long run?

In the long run, the reduced flexibility will increase gasoline price at the pump because of the added costs of batch segregation, sampling and analysis, and handling unexpected events such as refinery outages or changes in demand. Some marketers may withdraw from market areas where their market share is small and the added costs could not be adequately recovered because of the low volumes involved. Marketers dependent on imported gasoline may not be able to obtain supplies at competitive prices and may also withdraw from the market. Such withdrawals would reduce competition at the retail level. Reduced competition may also lead to still higher prices at the pump.

Question 8. Do you believe the proposed exemption for the Venezuelan refiners would, or would not have given them a competitive edge over domestic refiners? Explain.

PDVSA is not subject to the antidumping rules for gasoline not exported to the United States, whereas domestic refiners are because the vast majority of their gasoline is sold domestically. Avoiding the costs of antidumping rules improves PDVSA's competitive position.

Giving PDVSA its own baseline would further improve its competitive position compared to requiring it to use the statutory baseline. PDVSA's 1990 gasoline was "dirtier" than the statutory baseline. Without its own baseline, PDVSA's gasoline would have to be improved from its own baseline to the statutory baseline plus 15% instead of being improved just 15%. The additional improvement adds cost that domestic refiners with baseline gasolines "dirtier" than the statutory baseline will not have to incur.

There is no doubt about the value of its own baseline to PDVSA. Its share of the eastern U.S. gasoline market would undoubtedly increase, because it would be able to hold its price increases to levels lower than those that domestic refiners will seek to impose.

Question 9. If the Venezuelan exemption had remained, what impact would that have had on other foreign refiners who upgraded their refineries to be able to meet the requirements of the RFG rule?

For any foreign refiner able to document its 1990 baseline, the impact would be the same as it would be for PDVSA. I do not know whether or not any other foreign refiner can document its 1990 baseline.

Question 10. What impact does the renewable oxygenate standard have on reducing our reliance on foreign oil?

The answer to this depends on a number of factors which cannot be predicted with assurance. The most important factors are (1) the relative amounts of ethanol added to RFG as ethanol and added as ETBE or TAEE, (2) the relative amounts of domestically-produced oil-derived and natural gas-derived isobutylene used to make ETBE and TAEE, (3) should gasoline imports go down as predicted by some independent marketers, imports of crude oil will go up for refining to fill the supply gap, and (4) the amounts of methanol and MTBE that will be imported to meet the demand not met by production from domestic resources. The third and fourth factors are more a matter of the overall energy import mix, of which oil imports are a part.

1. It takes 5.7% ethanol and 11.0% MTBE to produce 2.0% oxygen in RFG. If both are produced from domestic non-oil resources, MTBE displaces more oil than ethanol does. On the other hand, it takes 12.7% ETBE to produce 2.0% oxygen, so if all the ETBE is produced from domestic non-oil resources, ETBE displaces more oil than MTBE does. However, ETBE is more expensive than the ethanol from which it is made, so, other things being equal, which they seldom are, ethanol is cheaper to use than ETBE is. Thus, if ethanol is to be used, it is as a first approximation cheaper to use it as ethanol than as ETBE. There will be exceptions to this where other factors intervene, such as costs of changes in refinery operation to make the proper RBOB and changes in downstream blending costs; the frequency of such occasions will probably be low enough that blending ethanol will occur to a larger extent than blending ETBE.

2. Currently, about 60% of the isobutylene going into MTBE is derived from natural gas liquids. Since the methanol is 100% non-oil, MTBE is, on the average, 75% non-oil. Refiners tend to prefer to make as many gasoline components as they can from the oil barrel, and they can make more isobutylene from their oil barrel than they historically have. If they do so, the non-oil input to total ether production will go down, negating to some extent the impact of the greater dilution (11.7% vs. 5.7%) noted in the previous paragraph.

3. Gasoline imports might go down as much as 100,000 or 200,000 barrels per day, if the worst fears of the independent marketers are realized. The price increase associated with the combination of RFG and the ROS would dampen demand some, but probably not that much. Thus oil imports would rise, and with gasoline being about half of the barrel, they would rise about twice as much as the gasoline imports go down.

4. Currently, methanol and MTBE imports are rising, as demand is rising faster than domestic capacity is. There is a good bit of disagreement about whether new domestic production will be able to compete against imports. The debate over the ROS has caused considerable hesitance among potential investors to invest in additional domestic methanol capacity. I am more optimistic about the future profitability and competitiveness of domestic methanol and MTBE capacity than some other analysts are, so I think that the rise in import share of total MTBE is temporary. However, no one can be sure.

On the basis of these considerations, among others, the ROS is more likely to increase oil imports than to decrease them. Methanol and MTBE imports, whose magnitude is much less than that of oil imports, would rise less than they will in its absence. The net effect on total energy imports is more likely to be an increase than a decrease, but the differences will be relatively small.

Question 11. How do you expect the gasoline distribution system to respond to the new demands being placed on it? Will we see new tanks and pipelines being constructed to respond to the more complex storage problems presented by the RFG rule?

See response to Question 4.

Question 12. Will foreign refiners undertake refinery upgrades to produce and import RFG? If they are how does that impact the viability of the independent terminal operator?

Governments around the world are becoming more interested in cleaner gasoline. Western Europe, Japan, Mexico, and a number of the newly industrializing countries are already moving in that direction. Therefore, refineries everywhere will be upgrading, a process which will probably go on for several decades. Oxygenates may or may not be required by some of these governments; they are helpful but not essential ingredients in cleaner gasoline. European governments, for example, in their current deliberations on future standards, have not yet decided on the role of oxygen.

So foreign refiners will be upgrading regardless of their interest in the U.S. as an export market. The more they upgrade, the more able they will be to compete in the U.S. market. This trend should be promising for the independent terminal operators, who are currently very concerned about their short-term prospects for economic health. The issue appears to be whether they can survive the short term to reach for the potential benefits of the longer term.

CLEAN AIR ACT IMPLEMENTATION

WEDNESDAY, OCTOBER 5, 1994

House of Representatives,
Committee on Energy and Commerce,
Subcommittee on Energy and Power,
Washington, DC.

The subcommittee met, pursuant to notice, at 10:32 a.m., in room 2123, Rayburn House Office Building, Hon. Philip R. Sharp (chairman) presiding.

Mr. Sharp. The subcommittee will please come to order.

Almost 4 years ago today, Congress enacted the Clean Air Act Amendments of 1990, ending decades of division and dissent over fulfilling the promise of the original Clean Air Act, to deliver healthy clean air to all Americans. And many Americans are still, of course, awaiting the results, but we continue to make progress.

The subcommittee held hearings just last week on one of the new issues that resulted from the Act in 1990, the Reformulated Gasoline Program, which is due to begin in January. Among the modifications to the 1990 Act, of course, was the Acid Rain Program. Efforts to reduce sulfur dioxide from power plants had begun years before for new utility construction, but the 1990 amendments marked the first time that pre-1971 utility plants would be required to join the fight for clean air.

The debate, of course, was contentious. The stakes were high. The cost to clean the older plants was viewed as very large. And in an effort to provide flexibility of compliance options and to reduce the cost of compliance, President Bush's administration proposed enlisting the market in pursuit of cleaner air.

Their proposal set the usual limit, outer limit, on pollution, as we are familiar with in most other command and control environmental laws. But the proposal then declined to prescribe exactly how a utility might have to reach those limits. Instead, they invented the term "allowance." An allowance equated—one allowance was the ability to emit one ton of sulfur dioxide for 1 year.

They translated the pollution limits into allowances and gave the utilities just enough allowances to meet the overall limit. Older, dirtier plants, would have to reduce emissions to meet their limits in 1995, and the lower limits prescribed by the law in the year 2000.

At our first hearing on this novel idea in 1989, it appeared to me and to many others that the administration was for it, the Environmental Defense Fund had been an advocate and creator of the idea originally was for it, but most other people were quite skeptical about the ability to make it work.

We are here today to find out 4 years after enactment what has happened and what the one-time combatants think about the program now. Just before Phase I, in 1995, which will require significant sulfur dioxide reductions from 110 utility plants, the program is on time and the costs much less than projected for utilities and for their ratepayers at the time of consideration 4 years before.

The allowance program, which allows the utilities to create allowances for later use by overcomplying in the near term, has led to early reductions of sulfur dioxide far beyond those anticipated or required by the law. I hope that we will hear from our witnesses about any concerns or warnings for the future of the program.

I want this to be an opportunity to get on the record issues that Congress may need to look at in the future. And I, for one, am concerned that despite very tight times, budgetary tightness, at EPA, that enough resources continue to flow to this program to keep it meeting its deadlines and its obligations.

It may be too easy to overlook, given the other workload of the Agency, acid rain, which hasn't had either the crises or the political visibility of some of the other pollution programs. But keeping the program running smoothly is essential to keeping the costs of compliance down and to marrying the market mechanisms to environmental regulations.

I just do want to indicate, though, that I think that at least the initial judgment of many people is that this is a tremendous success of a new approach or at least a dramatically expanded approach to how we might be able to regulate and meet our social environmental goals, and at the same time, minimize the costs that we must be very sensitive to for economic as well as equity reasons in our country. And given the enormous cynicism today about the ability of Congress or the government to make any right choices on anything, it may be valuable to indicate that, yes, some good policy gets made, it gets made on bipartisan basis and good people at EPA work hard to make it happen over time, as well as many people in the private sector work diligently to comply with the law. And believe it or not, the country ends up better off.

[The prepared statement of Hon. Michael Bilirakis follows:]

STATEMENT OF HON. MICHAEL BILIRAKIS

Thank you, Mr. Chairman. I am experiencing a strong feeling of deja vu this morning. Four years ago at this time, the House and Senate were locked in a very fierce debate over amendments to the Clean Air Act, particularly those affecting the Acid Rain Program. There was a lot of discussion about "clean States" and "dirty States", and feelings—and tempers—were running very high. Some people were even expressing doubts that the House and Senate would be able to reach an agreement and pass legislation before we adjourned.

I am pleased to say that we proved the doubting Thomases wrong. We were able to work together to enact a clean air bill and an Acid Rain Program that both protects the needs of industry—particularly those of the electric utilities responsible for generating the Nation's power—and addresses our concerns about preserving the environment.

Our purpose today is to examine the implementation of the Acid Rain Program. We are here to learn whether the Acid Rain Program and the allowance trading system we set up are working as we intended when we wrote the law 4 years ago. If they are not, then we need to determine where the problems lie and how to correct them.

In July 1994, EPA issued a report expressing concern that inaction by State regulators was stifling allowance trading. In addition, questions have been raised about how well the auction and sale programs are working.

I am looking forward to the testimony of the witnesses before us this morning on these issues—and any others that they feel are affecting a smooth implementation of the Acid Rain Program.

Thank you, Mr. Chairman.

Mr. SHARP. With that, let me welcome our first distinguished witness. We are very pleased to have with us Ms. Mary Nichols, the Assistant Administrator for Air and Radiation, with the Environmental Protection Agency.

Ms. Nichols, I am sure you are familiar with our processes. We will be happy to make any written statement a part of our printed record and be happy to have your oral summary at this point.

STATEMENT OF MARY D. NICHOLS, ASSISTANT ADMINISTRATOR FOR AIR AND RADIATION, ENVIRONMENTAL PROTECTION AGENCY

Ms. NICHOLS. Thank you very much.

Good morning, Mr. Chairman, and members of the subcommittee.

I am not on yet.

There, good morning. Thank you very much.

I am pleased to be here today to discuss the Environmental Protection Agency's efforts to implement the acid rain provisions of Title IV of the Clean Air Act Amendments of 1990. By employing market mechanisms, as you indicated, to reduce emissions, Title IV has created a unique opportunity to protect the environment at the lowest possible cost. But before I begin my brief summary of the written testimony, I would also like to take this opportunity to thank you, Mr. Chairman, as well as the members of the subcommittee and your staff, for your very considerable and constructive efforts in drafting this portion of the law.

Over the past 4 years, EPA has been doing its best to carry it out and to fulfill its mandates. And I am going to discuss some of the challenges and some of the real successes there. But I am pleased to report that indeed we have made substantial progress. Immediately following the enactment of the 1990 amendments, we established the Acid Rain Advisory Committee, or ARAC, to help develop the regulations that were needed. And with a great deal of helpful input from the ARAC, EPA devoted the bulk of 1991 and 1992 to completing the rules which form the basis of our allowance trading system.

By early 1993, EPA had issued all of the Acid Rain Program rules that were needed for sulfur dioxide, which included the permitting rules, the allowance allocations for 2,000 Phase II utility units, the rules governing transfers of allowances, the continuous emissions-monitoring requirements, and the rules indicating the penalties for noncompliance and the administrative appeals procedures.

All of these rules were signed within 6 months of their statutory deadlines, which is not quite as good as meeting the deadlines, but pretty close, particularly when you look at all the deadlines that EPA was given under the Act. In September of 1993, we issued proposed regulations for combustion sources not affected by the core program, allowing them to opt in. The final opt-in rule is expected to be signed by the end of this year.

Additionally, we issued final rules for our NO_x reduction program for Group 1 boilers in March, 1994. Once the rules for the allowance trading program were completed, we shifted our emphasis from regulation development to program implementation, which is where we are now.

With the first phase of emissions reductions required in less than 3 months, I am pleased to report that the program is on track. Utilities have met all permitting deadlines under the Acid Rain Program.

All Phase I compliance plans were reviewed and all 182 Phase I sulfur dioxide permits have been issued. Moreover, 266 of 292 utility units which were affected in Phase I have been fitted with a complete set of certified, continuous emission monitors, with the remaining monitors to be certified this fall.

Emissions data from the monitors have already been received by the Agency in the form of three quarterly reports. Furthermore, initial versions of two data management systems have been developed by the Agency; one to handle the emissions data which will be the largest and most complex database ever used by EPA, and the other to track allowance trading. Both systems are currently operational, although substantial modifications still remain to be done.

I also am pleased to inform the chairman and the members of the subcommittee that the Acid Rain Program is working. Over 1 million allowances have already been traded and there has been increasing participation in the EPA auctions, which signals the development of a healthy allowance market.

The price of allowances has been lower than predicted in 1990 and 1991, reflecting the cost effectiveness of the program. Importantly, the utilities have been generally pleased, we believe, with the reduced price, and have also been generally supportive of the Acid Rain Program.

Mr. Chairman, although EPA is pleased with the level of success that we have had in implementing Title IV, I also don't wish to leave you with the impression that there have not been any obstacles in our path. We have had some difficulties and we will continue to face new challenges as we move towards the future.

One of the areas in which we have faced unforeseen difficulty relates to the development of our data management systems. Although both of our data systems are currently on line, neither is fully developed and capable of handling the level of activity expected next year. The need to provide adequate financial safeguards for the allowance tracking system, which holds $50 billion in utility assets, and the sheer complexity of the databases, have posed a variety of software development challenges which have been difficult to resolve.

Another area in which we have experienced unforeseen difficulty has involved litigation. I suppose it should have been foreseen, but one doesn't like to foresee litigation. Several lawsuits against our program have diverted scarce resources and have caused some delays in the development of the program. Certainly some of the difficulty that we have faced in implementing Title IV can be attributable as well to the fact that there are resource constraints.

One of the questions which you posed to me was whether EPA is applying adequate resources to fulfill its mission of implementing the Acid Rain Program. Given the pressure we are all under to find ways to operate government more efficiently, we have made some very substantial efforts over the last few years to prioritize our various obligations under Title IV to make sure that our resources are expended on the items that are most critical to the success of the program. And because of these efforts, we have been able to successfully complete many of our tasks.

However, some items have been set aside due to scarcity of resources. In particular, the opt-in rules were delayed, certifications of certain continuous emissions monitors will be delayed, the complete development of our data systems has been hampered, although I will not tell you that it has been delayed, and some of the studies mandated by Title IV, such as the Interpollutant Trading Study and the Acid Deposition Standards Study, have also been somewhat delayed.

In your letter, you also asked what aspects of the legislation have worked well, and what aspects have not. In general, EPA has found Title IV to be very implementable. However, there are some complexities in Phase I which have challenged EPA's analytical and interpretive skills, and have in some cases presented some difficulties with implementation.

Another question you raised in your letter related to the impact of IRS tax treatment of allowances on the trading of allowances. EPA has not taken any position on this issue. However, some utilities and others involved in the allowance market have expressed concern that IRS tax treatment of allowances will discourage trading. Others do not see it as a major problem and, in fact, several companies affected by such treatment have been very active traders.

Mr. Chairman and members, I wish to conclude my testimony by mentioning that the next 2 years in particular, will be critical for the Acid Rain Program. 1995 marks the beginning of the compliance period of Phase I. We must have a fully operational program at that time and be prepared to handle the tremendous increase in workload which accompanies it.

With continued hard work and sufficient resources and the support of the administration, we expect to implement this program successfully and to be able to demonstrate the effectiveness of market-based approaches.

That concludes my prepared statement. I am happy to answer any questions you may have.

[The prepared statement of Mary Nichols follows:]

TESTIMONY OF
MARY NICHOLS
ASSISTANT ADMINISTRATOR
OFFICE OF AIR AND RADIATION
U.S. ENVIRONMENTAL PROTECTION AGENCY
BEFORE THE
SUBCOMMITTEE ON ENERGY AND POWER
OF THE
COMMITTEE ON ENERGY AND COMMERCE
U.S. HOUSE OF REPRESENTATIVES

OCTOBER 5, 1994

Good morning Mr. Chairman and members of the Subcommittee. I am pleased to be here today to discuss the U.S. Environmental Protection Agency's (EPA's) efforts to implement the Acid Rain provisions of Title IV of the Clean Air Act Amendments of 1990 (CAAA). By employing market mechanisms to reduce emissions, Title IV created a unique opportunity to protect the environment at the lowest possible cost.

Pursuant to Title IV, the Acid Rain Program sets as its goal the reduction of annual SO_2 emissions by 10 million tons and annual NO_x emissions by 2 million tons, as measured against 1980 levels. Unlike more traditional "command and control" approaches towards regulatory development, the Acid Rain Program relies upon market-based incentives to achieve emissions reductions. Rather than forcing operators of electric utility plants, which are the focus of Title IV, to reduce emissions by some across-the-board margin decreed by the government, operators must simply limit their emissions according to how many "allowances" they hold. An "allowance" is an authorization to emit one ton of SO_2. The statute sets a fixed amount of allowances which EPA can allocate in any one year, thus placing a cap on SO_2 emissions that may be released into the atmosphere.

The allowances are tradeable on the open market. If a utility anticipates emitting more SO_2 than it has allowances for, it must purchase more allowances from another utility. The utility which sells the allowances should only do so if it has reduced its own emissions by an equivalent amount of tons of SO_2, or else it will pay a steep penalty of $2000 per excess ton. This system provides increased flexibility and autonomy to affected industries as they strive to comply with emission limitations that become increasingly more stringent.

Since enactment of the CAAA, EPA has made substantial progress in implementing Title IV. Immediately following enactment, we established an Acid Rain Advisory Committee (ARAC). This committee was designed to advise EPA as we developed the rules to implement the market approach of Title IV. The ARAC was comprised of 44 individuals representing a variety of different organizations and interests, including utility executives, state officials, environmentalists, and academicians.

The members of the Advisory Committee became actively involved in devising solutions to problems and provided a good "sounding board" for EPA as we considered various regulatory options for implementing Title IV. Since members of stakeholder groups were represented, potential problems were identified early on. Additionally, the Advisory Committee meetings were very well attended by the public which provided us with further useful input. It should also be noted that beyond the rulemaking process, the ARAC helped facilitate implementation because it produced a knowledgeable cadre of individuals willing to work with EPA and committed to making the program work.

With input from ARAC, we devoted the bulk of the next two years to completing the rules which form the basis of our allowance trading system. By early 1993, EPA had issued all of the Acid Rain program SO_2 rules, which included: the permitting rules; the allowance allocations for 2,000 Phase II utility units; the rules governing transfers of allowances; the continuous emissions monitoring requirements; and the rules indicating the penalties for non-compliance and the administrative appeals procedures. All these rules were signed within six months of the statutory deadline.

In September 1993, we issued proposed regulations for combustion sources not affected by the core program, allowing them to opt-in. The final opt-in rule is expected to be signed by the end of this year. Additionally, we issued final rules for our NO_x reduction program for Group I boilers in March, 1994. Once the rules for the allowance trading system were completed, we shifted our emphasis from regulation development to program implementation.

With the first phase of emissions reductions required in less than three months, I am pleased to report that the program is on track. Utilities have met all permitting deadlines under the Acid Rain Program. All Phase I compliance plans were reviewed and all 182 Phase I SO_2 permits have been issued. Moreover, 266 of 292 utility units affected for Phase I have been fitted with a complete set of certified continuous emission monitors, with the remaining monitors to be certified this Fall. Emissions data from the monitors have already been received by the Agency in the form of three quarterly reports. Furthermore, initial versions of two data management systems have been developed by the Agency: one to handle the emissions data, which will be the largest and most complex database used by EPA; and the other to track allowance trading. Both systems are currently operational, though substantial modifications remain to be done.

The Acid Rain Allowance Trading Program has garnered much attention due to its non-traditional market-based approach. As a prototype for possible market-based programs, the success of the Acid Rain program will be important to EPA's use of market incentives in the future. EPA is pleased to inform the Chairman and the members of the Subcommittee that the Acid Rain Program is working. Over 1 million allowances have already been traded and there has been increasing participation in the EPA auctions, signalling the development of a healthy allowance market. The price of allowances has been lower than predicted in 1990 and 1991.

Outside of the SO_2 allowance trading system, the Acid Rain Program also includes strategies for reducing NO_x emissions, as required by Title IV. As mentioned, EPA issued final rules for NO_x reduction for Group 1 boilers in March, 1994. Group I boilers are dry bottom wall-fired or tangentially-fired utility boilers that burn coal. By May 6, 1994, only 45 days after the NO_x rule was issued, proposed compliance plans for all Phase I Group 1 NO_x boilers were submitted to EPA on time. Applications from Phase II NO_x boilers were submitted as well. As of October 1, 1994, EPA had proposed approval of all plans and taken final action on plans for 22 plants. Final action on the remainder should be taken by November.

Another major area of the Acid Rain Program involves energy efficiency and renewable energy. EPA has promoted the use of pollution prevention strategies through use of the special Conservation and Renewable Energy Reserve created by Title IV and through publication of a handbook on Clean Air Act (CAA) opportunities for energy efficiency and renewable energy. The Reserve provision has focused considerable attention on using pollution prevention to reduce emissions. Thus far, EPA has awarded nearly 3000 incentive bonus allowances to 17 different electric utilities. About 30% of these allowances were awarded to utilities for their renewable energy programs.

The Agency is also working closely with the renewable energy and energy efficiency industries to develop a series of ten technology-specific fact sheets that can be used by manufacturers and developers to promote the CAA benefits of their technologies. Utilities have found that emissions reductions from energy efficiency and renewable energy decrease compliance costs and add to the cost effectiveness of these technologies.

Mr. Chairman, it is worth noting that within 4 years of the enactment of the CAAA, EPA has issued all the major regulations required under Title IV; implemented a substantial portion of the Acid Rain Program by issuing timely permits; certifying continuous emissions monitors, and receiving data submissions; and, has already seen the preliminary results of active allowance trading. We are genuinely pleased with the success of the Acid Rain Program.

At this time, I would like to respond to several of the questions you raised in your letter of invitation. You asked about the reaction of various stakeholders to the Acid Rain Program. For the most part, stakeholders have been supportive of the Acid Rain program, though often that support has been tempered with some caution. For example, the utility industry has been supportive of the Acid Rain Program because they have noted that the program provides them with a great deal of flexibility in complying with the emission reduction goals. The mix of options available to them is seen as an opportunity to reduce the cost of compliance substantially. However, utilities are uncertain about how the Public Utility Commissions (PUCs) will treat their choices for compliance when it comes to ratemaking decisions.

It is not clear that there is a wide appreciation among PUCs for the potential cost savings that could result from the allowance trading system and the subsequent benefits to their ratepayers. Only a few PUCs have made efforts to address the concerns of utilities about the treatment of their compliance options. However, the statutory requirement that states must employ least-cost planning and have electricity ratemaking policies that encourage energy efficiency and renewables in order for their utilities to receive bonus incentive allowances has been helpful. In fact, several states have been inspired by this provision to review or change their planning and ratemaking policies.

The environmental constituencies have been the most diverse in their views on the Acid Rain Program. Some have shown strong support while others have been critical. However, most major environmental groups understand the benefits of the Acid Rain Program in terms of reduced costs, early emission reductions, and long-term environmental benefits and support the Program. Notwithstanding this, they remain vigilant toward EPA's implementation of the program.

Given the guarded skepticism exhibited by various stakeholders, EPA has been pleased that compliance with our Acid Rain Program regulations has been so readily accomplished. As I already have indicated, we received all of our Phase I permit applications on time, which allowed us to issue all of the final SO_2 permits by August 1st. We have also received all Phase I continuous emission monitoring certification applications which has enabled us to issue 90% of the final certification approvals to date. Moreover, utilities have submitted quarterly emissions reports to EPA in a timely manner as well. The cooperation we have enjoyed from utilities thus far has been instrumental in our ability to get our job done effectively and efficiently.

Mr. Chairman and members of the Subcommittee, although EPA is pleased with the level of success we have had in implementing Title IV, I do not wish to leave you with the impression that there have not been any obstacles in our path. We have had our difficulties and will continue to face new ones as we progress in the future.

One of the areas in which we have faced unforeseen difficulty relates to the development of our data management systems. As I mentioned, the Acid Rain Program has two very complex data systems--one for tracking allowances and another for compiling emissions data. Although both of these data systems are currently "on-line," neither is fully developed and capable of handling the level of activity expected next year. The need to provide adequate financial safeguards for the allowance tracking system, which holds $50 billion in utility assets, and the sheer complexity of the databases have posed a variety of software development problems which have been difficult and costly to resolve. Our Acid Rain Emissions Tracking System will be the largest database ever used by the Agency and its size alone is bringing new challenges to bear for both EPA staff and our contractors. We have made substantial strides in developing these systems, but nevertheless expect to face further obstacles until the systems are complete and fully operational.

Another area in which we have experienced unforeseen difficulty has been with our permits rulemaking. Phase I of the Acid Rain Program provides many different options to utilities for compliance. One such option involves substitution and reduced utilization plans which allow Phase II units to come into Phase I early. Through lawsuits instituted by environmental groups, it came to EPA's attention that the existing Acid Rain Permits rule may be read as incorrectly providing utilities with the ability to use these plans to create excess, new allowances (potentially 1 million allowances over the five years of Phase I). This occurs when certain Phase II units enter Phase I and receive allowances for emissions reductions that would have occurred anyway. EPA has rectified this situation by entering into a settlement agreement with utilities and environmental groups. Though the settlement agreement eliminated this loophole and prevented potentially long and costly litigation, it still caused a delay in the issuance of permits and added further complexity to the data system.

Certainly some of the difficulty that we have faced in implementing Title IV can be attributable to resource constraints due to Congressional appropriations actions. One of the questions which you posed to me was whether EPA is applying adequate resources to fulfill its mission of implementing the Acid Rain Program. Given the pressure we are all under to find ways to operate government more efficiently, we have made substantial efforts over the last few years to prioritize our various obligations under Title IV so that our resources are expended upon those items which are most critical. It is because of these efforts that we have been able to successfully complete many of our tasks under Title IV. Moreover, our accomplishments have been made with less than 70 employees dedicated to Title IV at EPA headquarters and Regions, making our program an extremely efficient one. However, some items have been set aside due to lack of resources. In particular, our Opt-in rules have been delayed, the complete development of our data systems have been hampered, and some of the studies mandated by Title IV, such as the Interpollutant Trading Study and the Acid Deposition Standards Study have also been delayed. These studies could provide important information for expanding the scope of cost-effective regulation.

In your letter you also asked what aspects of the legislation have worked well and what aspects have not. There are several provisions of the legislation which have been critical to the success of this program. The cap on allowances and the requirement to continuously monitor emissions have been essential toward building the credibility of the market approach and toward measuring the environmental results. The inclusion of the Phase I allowance allocations in the statute and the exclusion of the government from reviewing every trade and compliance decision have also been indispensable in getting the program off to a rapid start and building confidence in the market system.

However, the numerous allowance allocation formulas and the attempt to achieve multiple policy objectives in Phase I have complicated the administration of the program and provoked litigation. Some 29 allowance allocation formulations in the statute pushed our interpretive and analytical skills, and a few are now being tested in the courts.

More difficult, though, has been the task of implementing Phase I with its multiple policy objectives. There appear to be three: 1) achieving some early reductions--a downpayment on the 10 million ton, year 2000 reductions, 2) mitigating the impact of fuel switching on the high sulfur coal industry, and 3) getting the market started, with its attendant benefits, as soon as possible. At this point it appears that the combination of provisions designed to achieve these objectives is leading to an over-achievement of the first, accomplishment of the second, and partial success of the third.

The combination of scrubber incentives, allowance banking, and the need to make Phase I compliance decisions before the allowance market was functioning is expected to produce additional SO_2 reductions in Phase I--on the order of 1.5 to 2 million tons per year. Furthermore, the reserve of 3.5 million allowances established for those facilities that install scrubbers by 1997 were fully utilized resulting in the expected protection of high sulfur coal mining jobs. However, the over-control and early compliance decision-making meant that the allowance trading market was a smaller player in Phase I than some had hoped. But, as we expected, utilities are using the flexibility of the system to transfer allowances within their companies, where much of the cost savings can be realized.

The low demand for allowances in the market place has meant lower than expected prices and the EPA auctions have effectively revealed that. During the legislative debate, industry claimed that costs would be over $1000 per ton, while EPA estimated costs from $200 per ton for Phase I to $600 for Phase II; currently, allowances sell for $140 to $170 each. These low prices probably reflect a variety of factors including lower than expected prices for low-sulfur coal.

More importantly, though, the benefits of the market approach for Phase II appear to be taking hold. There appears to be greater competition across compliance choices, resulting in lower costs for coal switching, technology, and allowances. Allowance trading is now also being seriously considered in Phase II compliance decisions. Without any trading the cost of achieving the 10 million ton reduction would have been over $4 billion per year. Current estimates with full trading place that cost at about $2 billion per year--a 50 percent savings. Again, these reflect both the efficiencies of a market approach and lower than expected coal prices.

The complexity of these provisions and the pursuit of multiple objectives in such a short time frame has caused increased costs to government and industry. Much of rulemaking effort, litigation, and costs in building the data systems are tied to the complexity of Phase I. Bringing all plants into the program at one time and delaying initial compliance by one or two years would have reduced the complexity of the program and enabled the now-apparent cost-saving benefits of the market approach to be more fully realized. It may, of course, have reduced the early reduction benefit and the use of scrubbing. Given our collective understanding of these issues at the time, I think Congress produced a very good law.

Another question you raised in your letter related to the impact of the Internal Revenue Service (IRS) tax treatment of allowances on allowance trading. EPA has not taken a position on this issue. However, some utilities and others involved in the allowance market have expressed concern that IRS tax treatment of allowances will discourage trading. They note that allowances allocated by EPA have a zero tax value, but once these allowances are sold, the proceeds are taxed as a capital gain. According to this view, this results in an incentive not to sell allowances, since the use of allowances to cover a utility's own SO_2 emissions is not taxable.

Other utilities and market analysts do not believe that tax treatment is a major impediment to trading, since all allowance sellers receive the same treatment and can likely pass the tax costs on to buyers. In addition, they note that there are tax benefits from the investments in pollution control equipment that are often necessary to generate excess allowances for sale. These benefits can compensate for the taxes on allowance sales. Finally, public utility commissions may allow cost recovery of these taxes through electric rates, although there may be a delay in recovering these costs until the next rate case. Therefore, we do not believe the IRS position is a significant impediment to allowance trading.

Mr. Chairman and members of the Subcommittee, I wish to conclude my testimony today by briefly outlining for you the challenges which lie ahead for the Acid Rain Program. The next two years in particular will be critical for us. Nineteen ninety-five marks the beginning of the compliance period of Phase I. We must, therefore, be ready by the end of 1995 to assess utility compliance with the mandatory emissions reductions for SO_2 and NO_x. This means that we must be prepared to handle the multitude of allowance transfers which will surely be made by utilities as they prepare for compliance determinations by EPA. In 1995, we also expect to see a six-fold increase in the number of monitoring systems which need to be certified and in the amount of data which will be submitted to us because of Phase II implementation requirements. Finally, and most importantly, our data systems must be completed and integrated if we are to make the timely and definitive compliance determinations mandated by law and expected of this program. With continued hard work and sufficient support, I am confident that we will see significant environmental progress and will be able to demonstrate the cost-effectiveness of appropriately designed market-based programs.

This concludes my prepared testimony. I would be happy to answer any questions that you may have.

Mr. SHARP. Thank you very much.

One question that comes to mind, one of our colleagues in another arena was indicating that there was a major impact in his particular area on the ratepayers because of the Acid Rain Program. But what seemed to come out of it was that choices by the State government over fuel use and other questions seemed to have had the major impact. Isn't it your impression that the program was designed with considerable flexibility on how to—what strategy any utility would use to implement, and that the trading system obviously expanded those options so that costs are down? I mean, do you have any data or impression as to the initial round of costs of compliance?

Ms. NICHOLS. Clearly, Mr. Chairman, you are correct, that the changes in rates vary with the locality, and that the choice was with the utility, although some States have chosen to impact on that choice by enacting legislation to deal with incentives or disincentives for using local coal as the fuel as opposed to other options that might be chosen. We have—our most recent estimate is that the average increase in electric rates is expected to be between .5 and 1.2 percent during the Phase II portion of the program, beginning in the year 2000.

Thus, a monthly electric bill of $75 would increase by about 90 cents. And this is considerably less than the 1 to 2 percent that was estimated when the law was first passed. So if anything, we are moving in the direction of reducing our estimates of the cost impact of the legislation. But again, as you indicated, this could vary substantially by location.

Mr. SHARP. Let me ask you a broader question. I mean, one of our folks is here and one of my concerns has been to—for us to find policy-wise, creative ways on implementing our environmental goals in an effort to reduce costs, and to be more effective in implementing the goals. I wonder if you want to take this opportunity to identify any other kinds of activities outside of the range of acid rain that you folks are now engaged in, in an effort to meet that stated desire of the President, of Ms. Browner, and I have heard you say so as well in other forum.

Ms. NICHOLS. You mean just in terms of any new approaches that we might be looking at?

Mr. SHARP. Yes, other efforts by EPA outside of acid rain, if you wish to take the opportunity just to highlight efforts to indicate that there is an effort to try to find better ways. Of course, sometimes the law is very clear-cut, there is no choice, there is no discretion.

Ms. NICHOLS. Well, I think I would point to two particular initiatives. The first that I would like to highlight is the effort on the part of the Ozone Transport Commission in the northeast to establish a market for reductions in emissions of nitrogen oxides, which goes beyond what is called for in this program. And I would just, if I may, divert a second, to say that I think one of the things that we are finding has turned out to be a particularly prescient piece of Title IV was the inclusion of the NO_x portion of Title IV. Because as it is turning out, the controls or the move to use low NO_x burners and utility boilers is something that is clearly a stepping stone on the way to greater reductions in NO_x emissions, which are going to be needed not only for ozone attainment throughout the entire eastern part of the United States, but as we look further down the road at problems with nitrogen loadings in great water bodies, at the fine particle problem which is a public health problem of increasing concern, and the role of NO_x in the ozone and regional haze problems.

We see that the kinds of controls that are going to be needed for the Acid Rain Program are clearly moving us in the right direction and will not in any way undermine additional control efforts but will really sort of pave the way for more. But the ozone transport region's efforts to develop a memorandum of understanding which will, on a region-wide basis, allows for a broader use of trading of allowances for NO_x, I think is a very progressive move forward, along the lines that the Acid Rain Program has begun, but with some new additions in terms of expanding the market and the players, and that only looking at a certain tonnage, but really giving each utility a cap.

The other program that I think has a lot of promise for us is the sectors approach which the Administrator announced a few months ago as the Common Sense Initiative at EPA. It is an effort on the part of the Agency to take six major industrial sectors, including auto manufacturing, metal plating and finishing, the printing industry, iron and steel, and others, and to bring together all the different regulatory authorities of the Agency, our enforcement people, our general counsel's office, and to review where we are with those industries of all of our different media regulations, explore what we could be doing better to promote advanced technologies, to look at pollution prevention, any possible cross-media impacts of our rules. And generally, to see if we can't begin to learn some lessons from our 20-some years of experience with media-specific regulations to try to do things cleaner and cheaper.

And so far, that program is off to an excellent start. It has brought in stakeholders from States and local government, from the environmental community, as well as the industries into, I think, what will be a very constructive dialogue at EPA.

These processes sometimes are—well, I think they are always slow. They are often contentious and difficult to get off the ground. But the degree of commitment on the part of all players to the notion that we can find better ways to do things and that the goal here is to achieve both a better environment and more flexibility for the regulated community, has been very heartening to me. So I think those are two areas where, hopefully, we will be able to see some possibilities in the future for looking again at how we can improve legislation.

Mr. SHARP. Thank you.

Let me recognize the distinguished colleague from Illinois, Mr. Hastert.

Mr. HASTERT. No questions.

Mr. SHARP. The gentleman from Idaho, do you have questions?

Well, Ms. Nichols, with that, we appreciate very much your time and attention to this. I know that you people will be working with the appropriations process on the resources questions that, I am sure, the Members of the Energy and Commerce Committee will be interested in how that goes. And I trust that Mr. Waxman and others will wish to be very helpful to the Agency.

But thank you very much for being with us.

Ms. NICHOLS. Thank you. I appreciate all of your support.

And coincidentally, we have today just gotten back from the printer the first update on the Acid Rain Program and will make that available to members and their staffs.

Thank you.

Mr. SHARP. Thank you very much.

We now welcome our second panel of witnesses.

Pleased to have with us Mr. Joseph Goffman of the Global Atmosphere Program, with the Environmental Defense Fund; Mr. David Hawkins, senior attorney with the Natural Resources Defense Fund; Mr. Jerrel Smith, vice president for Environmental and Safety Matters with the Union Electric Company, representing the Edison Electric Institute; and Mr. Ken Rose, a senior institute economist with the National Regulatory Research Institute; and Mr. Michael J. Walsh, a senior economist with the Chicago Board of Trade.

Gentlemen, we will make your printed statements a part of with our printed record, and we will be delighted to hear an oral summary from you at this time.

Several of you, I know, have testified on previous occasions before our committee. Perhaps, we would be wiser to go vote and come back, rather than get started.

So we will take about a 10 minute break, since the House has just announced its first vote of the day.

Stand in recess.

[Brief recess.]

STATEMENTS OF JOSEPH GOFFMAN, GLOBAL ATMOSPHERE PROGRAM, ENVIRONMENTAL DEFENSE FUND; DAVID G. HAWKINS, SENIOR ATTORNEY, NATURAL RESOURCES DEFENSE FUND; JERREL D. SMITH, ON BEHALF OF EDISON ELECTRIC INSTITUTE; KENNETH ROSE, SENIOR INSTITUTE ECONOMIST, NATIONAL REGULATORY RESEARCH INSTITUTE; AND MICHAEL J. WALSH, SENIOR ECONOMIST, CHICAGO BOARD OF TRADE

Mr. SHARP. Gentlemen, I think we are finally ready to begin with our second panel, and very pleased to have Mr. Goffman, who has been intimately involved with both the creation of the ideas and the implementation.

We are very pleased to hear from you at this point.

Mr. GOFFMAN. Thank you very much, Mr. Chairman, and members of the committee. I noted that some members of the press are here covering the——

Mr. SHARP. I am not sure the microphone—there we go.

Mr. GOFFMAN. There are members of the press here covering this hearing. And I have a temptation, I will admit it is mischievous, to sort of make their day and announce that EDF is prepared to repudiate the emissions trading aspects of this program. But I won't do it. I would rather, frankly, make your day, Mr. Chairman, because in our view, this is a very successful program.

And I think that before I say anything else beyond that, I think it should be noted, it is certainly recognized by me and by EDF, the enormous contribution you made to making this program possible and to making its most successful features possible. And I think that your leadership over the years in getting this job done, particularly since at least at this point we can say that what we know so far allows us to declare success, should stand as a sort of challenge to your successors to respond to the demand that the lessons of success that this program teaches need to be applied to a whole host of seemingly—now seemingly intractable environmental problems, which may remain so unless we really start aggressively applying these kinds of policy tools.

In which case, EDF at least is confident that these seemingly intractable problems, like widespread urban smog and global warming, just to name two, can be met, that the challenges they pose can be met.

The reason that we can 4 years into the program declare at least success at age four for this idea, is that we believe that we have seen a substantial amount of cost savings; but more important, we have seen much of the environmental performance that Congress worked very hard to build in or to make inevitable in the program come to pass.

So what I would like to do, if I may, is just to outline the basis for those conclusions. And again suggest that those conclusions and your record, Mr. Chairman, really do serve as a challenge for future policymakers to apply these lessons of success.

The system already appears to be achieving much of the cost savings that were promised for allowance trading. And to some extent, they are achieving these cost savings almost to a greater degree than some trading proponents expected. At the same time, this pleasant surprise easily, if paradoxically, could have been predicted for the simple reason that this is what markets do. When they work, they outperform expectations.

In addition, current information suggests that Phase I utilities will achieve more emissions reductions than required, which is one of the most hoped for environmental benefits of this program. We have been told by compliance consultants with whom we have worked, that energy conservation is being used as a utility compliance strategy.

We were lucky enough to be able to participate in the Acid Rain Advisory Committee, one of the issues you raised in your letter of invitation, and we found that that institution provided an invaluable service to helping the program get up and running correctly. In our view, the Acid Rain Program well might be one of the highest-leveraged programs in the EPA, given the very high ratio of environmental benefits created in relation to the resources required to support the program.

Now, this isn't a call for or a suggestion that the budget for this program be in any way curtailed or that we can afford to cut corners. On the contrary, we are talking about very high-leveraged dollars here, and because those dollars are so critical, it is essential that Congress and the EPA ensure that this program have the resources it needs to carry out all its necessary components. That being said, if those components are in place, you will get a very high-leveraged yield in terms of environmental and social benefits.

So the main thrust of what our concern is today, we see Title IV as representing a very powerful example of environmental policy and law reform that must be applied to other pollution reduction challenges. Indeed, we even see that this program illustrates some techniques that might be used to help cope with or deal with some of the competitive changes that are going on in the electricity industry. Specifically, we think that the creation of environmental markets might be one way to manage the transition to more competitive markets that at least some jurisdictions seem to be interested in fostering.

Again, as I said, there is evidence that the flexibility afforded under Title IV is producing cost savings and producing overcompliance at the same time. A classic win-win in both the environmental and economic accounts, if you will. But beyond flexibility, the contribution of the market created by Title IV to the cost savings already realized, really is due to the properties of the allowance system.

Some would say that only a tiny fraction of allowances have been transacted relative to the potential reductions that can be achieved. But even though we are not seeing a dramatic headline-grabbing, highly liquid market, what allowances have done have already introduced the competitive dynamic that exists in markets. In effect, allowances are a medium of competition between and among all possible compliance strategies, meaning that any time a utility chooses a compliance strategy, it inevitably will be choosing the one that has won the cost-effectiveness and cost-savings competition. So however you look at the activity of the allowance-trading market in terms of intra-utility transactions, this program has captured the market dynamic that everyone hoped would produce cost savings and incentives for environmental performance.

On the latter score, we have taken a survey of different firms that are working within this market and we have seen projections from these firms suggesting that in the first 5 years we will see anywhere from 2.5 million to 10 million tons of extra early reductions beyond the 17.5 million tons of reductions required in Phase I. Again, this has to be linked to the fact that an allowance market, active, potential or merely latent, produces substantial—produces substantial incentives for that kind of aggressive environmental performance.

All that being said, I think again Congress was able to design in this success and not merely rely upon luck. And Congress did design in this success by taking on some very straight-ahead law reform. The paradigm of Title IV is substantially indifferent from the paradigm of previous pollution control programs. It is a paradigm that ensured that the emissions reduction objectives of Congress would be met.

Compliance was defined in terms of actual reductions, not in terms of specific technologies or mere rates of reduction. That compliance was enforced by a very direct performance-oriented monitoring and enforcement system. And as a result, the regulatory apparatus could really concentrate its resources on the functions it does best, monitoring, compliance assurance and enforcement.

The regulated community in turn could do what it did best, or it does best, which is figuring out how to integrate environmental responsibility into its overall economic activity. Again, the most obvious example of why that makes sense is the cost savings we have seen, but beyond that, I think we are beginning to see what will be a very long-running, continuous syndrome of innovations in terms of technologies or simply environmental management strategies, which only the regulated industry itself can really provide, given the incentives that were created in this program. So again, what we have is built-in performance, the right allocation of responsibilities between the regulating community and the regulated community, incentives for doing better environmentally, cost savings and incentives for innovation.

It seems to us, at least, that if we are going to deal with urban smog, if we are going to deal with global warming, if we are going to deal with some of the matters that Assistant Administrator Nichols raised, if we are going to deal with comparable problems in other environmental media, we have to hold future program designs to these standards.

Fortunately, at least in the urban smog area, there are a number of jurisdictions that seem to be following the example, from the South Coast Air Quality Management District in Los Angeles, to the Illinois EPA working on Chicago and Lake Michigan Basin smog issues, to the Ozone Transport Commission working on NO_x problems in the Northeast. But again, it seems to me that the call that this program makes is for policy-making and political leadership to ensure comparable levels of performance.

As far as the electricity industry is concerned, as I mentioned, given the thrust for increasing competition and the concerns about ensuring that that thrust still accommodates all the vital environmental and social objectives that are now being served by utility regulation, it may pay to look at the use of environmental markets as one way to accommodate both the cost-savings ambitions of those who advocate more competition with the social and environmental concerns that are being addressed under the status quo.

Thank you again for this opportunity, and thank you again for making this program possible.

[The prepared statement of Joseph Goffman follows:]

Testimony of Joseph Goffman
Senior Attorney

Environmental Defense Fund

EDF continues to believe that the design of Title IV represents an environmental triumph by explicitly mandating a 10-million-ton reduction in SO2 and capping emissions permanently at the reduced level. Indeed, in this testimony, we argue that Congress succeeded in "building in" a very high level of success in the way in which Title IV was designed. In addition to the mandatory reduction and emissions cap, this built-in success is the direct result of Congress' decision to define compliance expressly in terms of actual emissions performance, "guaranteed" by continuous emissions monitoring and enforced through the imposition of stiff, automatic penalties. At the same time, by rendering SO2 emissions and allowances completely fungible, Title IV ensured a substantial level of cost-savings -- simply achieved through traditional utility energy management techniques like dispatching that might have been hindered under alternative statutory designs -- even in the absence of a high-volume allowance marketplace as popularly conceived. Part II of this testimony develops these conclusions more fully.

In Part I, the testimony presents EDF's response to some of the specific issues raised by the Subcommittee in its invitation to testify. Specifically, we conclude that:

- the system already appears to be achieving cost-savings, and to be doing s to a greater degree than even some emissions trading proponents expected: at the same time, this pleasant surprise easily, if paradoxically, could have been predicted for the simple reason that this is what markets do -- they exceed predictions on cost-savings and innovations.

- obstacles to the full development of an SO2 emissions trading market are likely to disappear over time.

- current information suggests that Phase I utilities will achieve more emissions reductions than required (particularly if EPA promulgates, as they were proposed, the revised provisions of the Phase I "substitution" and "compensating unit" rule governing the allocation of allowances).

- an increasing number of utilities are factoring energy conservation into their compliance strategies.

- the Acid Rain Advisory Committee was invaluable in the EPA's rule-making process with respect to the "core" SO2 rules: ARAC enabled the EPA to pursue its rulemaking with greater information and insight than would have been available otherwise while fostering in the regulated community heightened support for, and cooperation with, the program.

- the Acid Rain program well might be one of the highest leverage programs in the EPA given the high ratio of benefits created to resources required to support the program.

- Title IV represents a powerful example of law reform that should be applied to other pollution reduction strategies.

- the program also illustrates the way in which environmental markets can serve environmental objectives even as states like California move to create retail competition in the electricity industry.

Finally, we would caution that efforts by states either to restrict trading or to restrict utility compliance choices is very likely to be counter-productive both environmentally and economically.

This testimony is being presented and submitted by Joseph Goffman, senior attorney at the Environmental Defense Fund. The Environmental Defense Fund, a leading, national, NY-based nonprofit organization with over 200,000 members, links science, economics, and law to create innovative, economically viable solutions to today's environmental problems. EDF has had a long history of involvement in the acid rain issue. In the early 1980's EDF's scientists played an instrumental role in forging the consensus in the scientific community concerning the need to address acid deposition resulting from air-borne pollution from stationary and mobile sources. Throughout the 1980's, EDF also focused on the effects of such deposition on sensitive ecosystems, notably high-altitude aquatic systems in the West and coastal aquatic systems in the East. Long an advocate of the use of market mechanisms in the design of regulatory programs. EDF was invited by the Bush Administration to submit a proposal incorporating such an approach to the regulation of air pollution. In response, EDF outlined a program that mandated 12 million tons of annual sulfur dioxide (SO2) reductions implemented through a system of marketable permits. From February through July, 1989, EDF worked closely with the Bush Administration and the U.S. EPA to develop this proposal, which was ultimately included in the Clean Air legislation President Bush submitted to Congress in 1989.

In EDF's view, Title IV as finally enacted succeeded in incorporating the most salient features of EDF's original proposal. More important, EDF continues to believe that the design of Title IV represents an environmental triumph by explicitly mandating a 10-million-ton reduction in SO2 and capping emissions permanently at the reduced level. Indeed, in this testimony, we argue that Congress succeeded in "building in" a very high level of success in the way in which Title IV was designed. In addition to the mandatory reduction and emissions cap, this built-in success is the direct result of Congress' decision to define compliance expressly in terms of actual emissions performance. "guaranteed" by continuous emissions monitoring and enforced through the imposition of stiff, automatic penalties. At the same time, by rendering SO2 emissions and allowances completely fungible, Title IV ensured a substantial level of cost-savings -- simply achieved through traditional utility energy management techniques like dispatching that might have been hindered under alternative statutory designs -- even in the absence of a high-volume allowance marketplace as popularly conceived. Part II of this testimony develops these conclusions more fully.

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Finally, we would caution that efforts by states either to restrict trading or to restrict utility compliance choices is very likely to be counter-productive both environmentally and economically.

Part I of this testimony develops some of these responses in more detail.

PART I: RESPONSE TO THE SUBCOMMITTEE

A. Achieving Cost-Savings.

Already, there is evidence that the flexibility afforded utilities under Title IV is achieving cost-reductions. Reported compliance costs and allowance prices are lower than those projected during 1990 even under the most optimistic assumptions concerning the capacity of emissions trading to lower costs. Much of this is due not so much to the existence of an active trading market. It simply reflects the basic flexibility granted utilities in complying with Title IV's strict reductions mandates. Utilities have the latitude they need to respond to the fundamental imperative to pursue least-cost compliance strategies, strategies which in the "economic real world" are always more varied, more imaginative and less costly than those projected in computer models.

So long as a single utility succeeds in trading emissions reductions between even just two of its units -- even within the same plant -- then Title IV will have avoided some of the costs that would have been imposed had the Act required unit-by-unit reductions. Even if not a single allowance transfer between non-affiliated utilities is reported nor a single trading broker earns a commission, Title IV is likely to reap at least 50% to 70% of its cost-saving potential. As the legislative history suggested, allowances -- and SO2 emissions and reductions -- partake of the same properties of fungibility that electric power does. As a result, by Phase II, allowances and emissions should be fully integrated into utilities' dispatching strategies, moving from plant to plant as each system responds to ongoing electricity demand. It is simply through its role in environmental/economic dispatching that Title IV's allowance system will achieve the bulk of the efficiencies, and consequent cost-savings, that Congress sought. At the same time, the adoption of environmentally integrated dispatching approaches will establish a kind of infrastructure for utilities to use to integrate the response to economic and environmental demands. it is hard to conceive of a scenario under which utilities would not adopt such a high-efficiency dispatching approach to compliance.

The still-awaited development under Title IV is some form of an inter-utility emissions trading market. With the program still only four years old and the bulk of the required reductions not scheduled to take place for another six years, perhaps the greatest obstacle to the development of such a market to date is simply its novelty. Utilities are so likely to use environmental dispatching precisely because in making SO2 emissions and allowances completely fungible, Title IV permits utilities to manage their SO2 obligations under an approach -- economic dispatching -- with which they and their regulators are already fully familiar. Accordingly, opening an inter-utility trading market may depend on the ability of would-be financial intermediaries to design forms of allowance transactions that closely resemble the kinds of transactions with which utilities are already familiar, whether they are fuel purchase contracts or power sales arrangements. Such a project seems to be within easy reach, and once accomplished, a more active trading market could easily develop.

All that being said, the contribution of the market created by Title IV to the cost-savings already realized, extends beyond the flexibility that utilities can bring to their compliance strategies and the potential for active inter-utility trading in the future. So far, the EPA has auctioned about 750,000 allowances; an educated guess suggests that roughly the same amount have been exchanged in private transactions. Although this represents only a tiny fraction of the reductions projected for Phase I, these transactions together with however many allowances are set, under current compliance plans, to move from plant to plant within individual utilities' dispatch systems have created exactly the kind of competitive dynamic that characterizes markets and creates cost-savings. Even if not traded, allowances have become an implicit medium of competition, so that under the regime off full flexibility in which utilities operate, all possible compliance strategies must compete against the alternative of purchasing allowances, and against each other, to be the most cost-effective. As a result, even utilities whose compliance strategies do not feature trading are pursuing strategies that they can be confident are the lowest cost available.

B. "Excess" Emissions Reductions and Allowance Trading Restrictions.

Based on current compliance plans, several different sources, including the EPA, have projected that during Phase I, utilities are likely to generate anywhere from 2.5 million to 10 million tons of reductions beyond the 17.5 million required during this five-year period. Clearly, this is a powerful signal of dramatic success for the program -- especially for the specific market elements of the program as providers of identifiable environmental benefits. To a substantial extent, these "extra" reductions can only be justified -- and for regulated utilities are, therefore, only possible -- because they can produce a monetary return in an emissions trading market.

That is why it is especially ironic that some state officials may be considering imposing restrictions on allowance trades in the name of environmental protection. If utilities face an allowance market burdened by regulations and restrictions on allowance trading and banking beyond those imposed by the Clean Air Act, the financial justification for overcontrol will be weakened and the prospect of achieving early extra reductions will be dimmed. Utilities can and will make investments in overcontrol only if they have clear-cut expectations that excess emissions reductions will have the sort of value that an unencumbered market in banking and trading creates. If individual decisions to trade allowances or use banked allowances must clear layers of regulatory review before they are implemented, then much of the certainty needed to create value for excess emissions reductions is destroyed.

C. State Restrictions on Compliance Choices.

By eschewing an acid rain program that dictated or favored a particular set of compliance choices, Congress implicitly recognized that utilities faced emissions limitation requirements for a variety of pollutants, requirements that ultimately could be expanded to cover toxics and carbon dioxide. In leaving utilities' SO2 compliance choices unfettered, Congress gave utilities the opportunity to optimize their compliance strategies over the range of pollutants currently -- and potentially -- subject to emissions limitation requirements.

In late 1989, EDF published an analysis concluding that by maximizing utilities' flexibility in selecting SO2 compliance strategies, Title IV could maximize concomitant carbon dioxide (CO2) reductions. In contrast, since state policies that constrict utilities' SO2 compliance options deprive utilities of the ability to integrate their SO2 strategies with those that can maximize reduction of other pollutants, EDF's 1989 analysis clearly implied that such policies could dampen Title IV's potential to deliver ancillary CO2 reductions. Congress itself appeared to recognize the interplay between Clean Air Act compliance and CO2 emissions. Section 1605(b) of the Energy Policy Act of 1992 permits entities undertaking projects that result in greenhouse gas emissions reductions to register those reductions with the Energy Information Agency. Clearly, utilities that are making fundamental investment decisions in connection with new Clean Air Act compliance requirements are in a position to choose compliance options that are at least consistent with achieving reportable CO2 emissions reductions. State policies confirming the range of utilities' SO2 compliance options could deny utilities such CO2-reducing options.

In addition to affording utilities complete flexibility in complying with their SO2 requirements, Title IV's emissions trading provisions give utilities an ongoing incentive to make continual innovations and improvements in their compliance approaches, innovations and improvements that can lead to both lowered costs and enhanced environmental performance. If, however, states interpose constraints on utilities' compliance choices, then those constraints simply will block the signals for innovation that otherwise would be transmitted from the emissions reduction market.

D. Title IV as Law Reform

As Part II of this testimony elaborates, Congress designed Title IV by marrying the flexibility of emissions trading with a rigorous compliance regime characterized by key elements that were essentially novel as compared to much previous pollution control legislation. Often in the past, sources' compliance requirements have been defined in terms of emission rates or technologies prescribed by regulation. In practice, sources can be in compliance without achieving the actual emissions reductions expected or necessary to achieve the environmental objective -- e.g., attainment of the groundlevel ozone standard. This is because economic growth among regulated sources can result in high levels of actual emissions even if the sources are operating at relatively low emissions rates. In addition, the process of setting technology requirements for classes or categories of sources easily can be biased away from the achievement of optimal emissions reductions. Obliged by either law or political necessity to account for cost in setting standards or timetables, regulators may prescribe technology according to the "least common denominator," setting requirements at modest levels in order to ensure that the sources that otherwise might face high compliance costs are spared those costs.

Title IV offers a different paradigm. After determining the actual emissions reduction tonnage to be achieved, Congress simply defined each source's compliance requirements explicitly in terms of the actual emissions to which it was limited, and capped total emissions from all sources. Sources must install continuous emissions monitoring and report their actual emissions regularly. If they violate their emissions limitation requirements, they pay automatic fines set at levels two or three times the cost of compliance while also providing for excess emissions reductions to offset their excess emissions.

With this compliance scheme, Congress all but assured that the emissions reduction objectives of Title IV would be met -- a level of assurance of actual performance that few other pollution control programs can claim. At the same time, Congress decisively re-allocated the roles of government and complying sources. Regulators can narrow their role to guaranteeing that the sources actually achieve their emission limitation requirements. The sources themselves can focus on their own highest area of competence: selecting the optimal strategies for achieving compliance. It is a market in pollution clean-up, rather than often politicized bureaucratic rule-making, that helps sources harness the complex, widely dispersed and ever-changing information needed to select those optimal strategies. Regulatory intervention -- in the form of enforcement -- can be targeted surgically on non-compliers; the vast majority of sources, those that comply, are not burdened with costly regulatory transactions, nor are precious regulatory resources diverted by the need to impose redundant reviews of each complying source's compliance strategy. Finally, innovation, which is indispensable both to the continual enhancement of environmental performance and to moderating costs, is not dependent solely on bureaucratic processes and rulemaking. Instead, innovation is also continuously stimulated by the market for clean-up represented by emissions trading; that market not only rewards sources that overcontrol and "taxes" those that undercontrol, but its flexibility also permits sources to respond immediately and directly in applying new ideas and approaches.

Congress, the EPA and state and local regulators must design programs to control an enormous array of pollutants with widely varying and complex characteristics. For many, emissions trading may be completely counter-productive. Nevertheless, pollution program-designers should start by looking to Title IV as an exemplar of the critical characteristics that all successful pollution programs should share.

PART II: ANALYSIS OF THE TITLE IV ACID RAIN PROGRAM

A. Introduction

When the 101st Congress finally passed the Clean Air Act Amendments of 1990 on the last two days of the second session, one of the features of the legislation that Senators and Members lauded most frequently was the "innovative" acid rain emissions trading scheme in Title IV of the legislation. With the first utility plant sulfur dioxide reductions mandated by Title IV still more than a year away, the clamor to judge the success or failure of the program is already rising. In the space of less than one week last year, the New York Times ran two different stories on the subject. On February 1, a Business Day piece cited the relative dearth of emissions trades and suggested that the utility industry was institutionally incapable of responding to the opportunities and incentives created by emissions trading. The front page of the February 6 edition, highlighted the fears of New York environmentalists that active trading between New York and Midwestern utilities would defeat the protection of sensitive ecosystems that the mandatory reductions are otherwise expected to offer.

As established under Title IV, the acid rain program represents a major new environmental initiative. At the same time, it showcases a major-scale application of a market-based policy tool. Judging and evaluating the performance of the program will occur inevitably over time. Carefully identifying the categories of evaluation now, well before the program is in full swing, is critical, and may even help utilities and their regulators understand the choices they face and the consequences of their choices.

To most observers, the conclusive sign of success for the program -- and the outcome about which there is the greatest suspense -- will be the development of an active, robust and liquid allowance market. Under these conditions, utilities would enjoy maximum flexibility in their compliance plans and the greatest opportunity to minimize their costs. Indeed, such a development would mark the success of Title IV as spectacular. Success of such dimension also could take the form of massive excess reductions during Phase I, since the environmental benefits of the program would be accelerated. The greater and earlier the reductions the greater the protection offered to sensitive ecosystems, public health and regional visibility.

Based on current compliance plans, several different sources, including the EPA, have projected that during Phase I, utilities are likely to generate anywhere from 2.5 million to 10 million tons of reductions beyond the 17.5 million required during this five-year period. Clearly, this is a powerful signal of dramatic success for the program -- especially for the specific market elements of the program as providers of identifiable environmental benefits.

In addition to these early "spectacular" developments, however, the probabilities favor the success of the acid rain program in achieving its core emissions reduction and economic objectives over the long run, as well. In fact, the legislation includes key design elements that endow the program with an almost self-fulfilling capacity in delivering the basic success that its proponents and supporters sought.

B. Background

In 1980, the National Academy of Sciences issued a report linking sulfur dioxide emissions with the acid deposition, associated in turn with observed damage to sensitive aquatic and forest ecosystems. The report called for a 50% cut in nationwide sulfur dioxide emissions, then totaling 24 million tons per year. Throughout the 1980's a variety of bills were introduced in Congress aimed at achieving anywhere from 8 million to 12 million tons in annual sulfur dioxide emissions. Some featured flexibility by imposing emissions limitation requirements in terms of state-wide average emissions rates. Others imposed plant-by-plant emissions rate requirements and offered subsidies to utilities using stack scrubbers to meet their emissions limitation requirements.

These variations reflected competing regional interests. Those who saw acid rain legislation as creating new markets for low-sulfur coal, often mined in the West, promoted flexibility and opposed efforts to mandate or subsidize stack scrubbers, whose use would permit utilities to continue to use high-sulfur coal. Conversely, those representing the Midwest favored measures, like the imposition of plant-by-plant rate limits that effectively mandated scrubbers, to preserve the demand for high-sulfur coal. At the same time, arguing that they would bear a disproportionately high share of the program's compliance costs, Midwestern utilities pushed for subsidies to offset those costs.

Despite the concerted efforts of environmental advocates who argued that growth in demand for electricity would erode any emissions reductions achieved, none of the proposals, save for one reported out of the Environmental Protection Subcommittee in 1987 limited plant emissions to a specific level of annual tons or imposed a cap on total annual emissions. Throughout the debate, the projected high cost of the program loomed as a dominant factor.

C. The Objectives of Title IV

According to the legislative history of the 1990 Amendments, the objective of the acid rain program "is to reduce annual SO2 emissions by 10 million tons below 1980 levels by the year 2000." Report of the Committee on Environment and Public Works, U.S. Senate, Clean Air Act Amendments of 1989, Report 101-228, p. 302. Title IV purports to ensure this by imposing specific emissions tonnage limitation requirements on every existing utility unit in the 48 continental United States, by requiring new units to secure emissions offsets for each ton of SO2 emitted and by authorizing the EPA to allocate annually no more than 8.9 million emissions allowances, without which utilities may not emit sulfur dioxide.

So long as a utility holds allowances in an amount equal to its annual SO2 emissions it may transfer, acquire and bank allowances freely. The legislative history cites several benefits that can or will result from this system of marketable allowances. With utilities enjoying the maximum range of compliance choices, overall program costs can be minimized. Utilities or regions with high overall costs can use the allowance market to generate revenues to offset those costs, while those with growth in energy demand can avoid higher cost on-site reductions. Indeed, the allowance market was cited as the device that would allow utilities to hold their total emissions at a constant level while continuing to respond to economic growth and the resulting demands for energy. Incentives created by the allowance market and the emissions cap were expected to induce greater-than-required reductions earlier than required and to stimulate innovation. At the very least, the fungibility of emissions allowances was expected to permit utilities to use "environmental dispatching" so as to integrate SO2 emissions control with customary power-pooling and economic dispatching practices.

D. The Emissions Objectives: A Quest for the Statutory Fail-Safe

While Title IV is often described as an emissions reduction program "implemented through a system of emissions trading," in fact the required emissions reductions can, and, if necessary, will, occur even in the complete absence of an allowance market. Under Title IV, all that is "implemented through a system of emissions trading" is the ultimate allocation, between and among individual plants, of emissions reduction responsibilities and costs. Although compliance is defined in terms of the number of allowances held for each unit, Congress took great pains to quarantine the program's compliance scheme from the vagaries of emissions trading, including both the utter absence of trading and hyperactive and volatile trading.

Title IV's compliance scheme not only stands wholly apart from the development (or lack thereof) of an allowance trading market, but it also incorporates critical elements, many unprecedented, aimed at eliminating the possibility that the required emissions reductions will fail to be achieved.

First, the statute itself imposes absolute liability for achieving the required SO2 emissions reductions directly on each utility unit. As stated in the legislative history, Congress intended to "impose[], as a matter of law, an absolute emissions limitation obligation on each unit ..., notwithstanding" other provisions of the Title or even EPA's default in allocating allowances or promulgating regulations. Senate Report, pp. 327, 328.

Once allocated, allowances double as both the currency through which emissions are traded and the instrument through which each unit's emissions obligations are implemented. At the same time, the allocation of allowances also serves as the near fool-proof method of fixing an annual cap on nationwide utility SO2 emissions. Title IV constrains the EPA to allocate allowances in each year beginning in 2000 so as to ensure that annual emissions do not exceed 8.9 million tons (although allowances banked from other years as well as those resulting from "bonus" allocations may bring the total higher). The supremacy of the cap is made absolute by language expressly authorizing the EPA to reduce each plant's allocation if necessary to ensure that the 8.9 million ton limitation is met. The efficacy of the cap is guaranteed by the fact that all utility units, new and existing, are subject to it.

Title IV's compliance scheme is completed by two additional elements. First, each utility unit must install continuous emissions monitoring equipment and report its emissions regularly. Second, non-compliance brings stiff automatic monetary penalties at levels well above the cost of compliance and an automatic reduction in the unit's allowance allocation for the purpose of offsetting its excess emissions.

As an emissions reduction program, Title IV appears unusually favored with features that predict all but certain success in meeting the announced objectives: reducing total emissions by 10 million tons per year from 1980 levels. As discussed in Part I, D, above, what unites these features, giving the compliance scheme a striking coherence, is that they are all purely performance-focused. Compliance is defined strictly in terms of emissions tonnage limitations. The program incorporates no standard or activity (e.g., the installation of prescribed scrubbing technology or the use of a specific fuel) that offers an alternative path to compliance apart from each unit's meeting its emissions tonnage limitation. As a result, Title IV escapes the possible conundrum, which often plagues other environmental programs, of finding that while sources may be in compliance with applicable standards, total emissions reductions fall short of program objectives.

Sources' liability for meeting their emissions requirements arose with the enactment of the legislation. As a result, the program does not face the risks of delay and avoidance often associated with programs which depend on rulemaking to create pollution control obligations. At the same time, since EPA can concentrate its resources on physical monitoring and enforcement, the likelihood that substantial non-compliance will defeat the program is small.

E. Phase I: Holding Its Breath Until Phase II

The ultimate emissions reduction objectives of Title IV are embodied in the second phase of the program, which begins in year 2000. Title IV also provides for intermediate reductions to begin in 1995, by imposing emissions limitation requirements on 110 of the nation's highest-emitting plants. The compliance infra-structure of statutory obligations, allowances, continuous emissions monitoring and automatic penalties requiring both monetary payments and offsets for excess reductions is identical to both Phases. On the other hand, by failing to include all plants and to impose even an intermediate emissions cap, Phase I fails to attain the near-perfect reliability of Phase II's compliance strategy.

The absolute emissions cap in Phase II is one of the keys to the program's reliability. Among other things, the cap provides a built-in definition of "surplus" reductions available for transfer from one unit to another. Since each unit holds a share of a fixed number of SO_2 allowances, which govern the total number of allowable emissions, any plant that reduces emissions to a level below the number of allowances it holds creates "surplus" -- and therefore tradeable -- reductions. Thanks to this, Title IV and complying sources are free to treat allowances and emissions as completely fungible, again, without jeopardizing the emissions performance of the program. The cap ensures that trading never results in an increase in emissions compared to the level of emissions that would occur in the absence of trading. Utilities can exploit least-cost environmental dispatching and any other approach that maximizes reductions at the lowest-cost reducing sources and, in the end, total mandatory reductions will be achieved.

By failing to construct Phase I as an all-inclusive, capped system, Congress was forced to improvise in regulating the role of Phase II units during Phase I. First, Congress expressly blocked Phase II units from "opting in" to Phase I. This reflects the fact that in calculating Title IV's emissions reduction objective, Congress relied on "base case" projections indicating that emissions reductions would occur at some Phase II units between 1985 and 2000 even in the absence of legislation. If these units opted in and these base case reductions were used to offset required reductions by Phase I units, then net Phase I reductions would be lessened. In that case trading would result in a loss of emissions reductions, an outcome that Congress was adamant about precluding.

By itself, however, barring Phase II units' participation in Phase I would have prevented Phase I utilities from adopting the dispatching and other high-efficiency reduction strategies that are available in Phase II if these strategies involved Phase II units. Accordingly, Title IV includes two provisions which attempt to inject into Phase I the combination of flexibility and reliability built into

Phase II by operation of the emissions cap. One permits reductions achieved at a Phase II unit to be "substituted" for those required at a Phase I unit. In keeping with the need to establish a clear definition of "surplus" -- and therefore tradeable -- reductions, Title IV stipulates that "substitution plans" must achieve at least as many reductions as would have been achieved at the participating Phase I and Phase II units in the absence of the plan. Again, the effect of this requirement is to ensure that "base case" reductions at Phase II units are not used to offset required reductions at Phase I units and thus lower total net Phase I reductions. This, in turn, ensures that trading never results in an increase in emissions.

Recognizing the virtue of environmental dispatching, Congress authorized Phase I units to shift generation to Phase II units provided, again, that such generation-shifting does not result in more emissions than would occur in the absence of the generation-shifting.

Taken together, these provisions should endow Phase I with a rough-and-ready equivalence to the Phase II cap and its guarantee of both reliability and flexibility. With a working distinction that identifies "surplus" reductions at Phase II units, Title IV allows Phase I utilities to tap low-cost reductions at Phase II units as well as full-system dispatching.

Unfortunately, the Phase I flexibility scheme required EPA to engage in Phase I rule-making that is far more complex than that required in Phase II, which relies strictly on express statutory emissions limitation requirements. The resulting rules failed, however, to implement the Phase I scheme correctly. The final rules simply ignored Title IV's requirement that substitution plans achieve the same reductions that would have occurred at the participating units in the absence of the plan. In addition, the rules governing generation-shifting permit emissions increases to occur when Phase I units shift generation to Phase II units.

In March, 1993, the Environmental Defense Fund and the Natural Resources Defense Council petitioned the Court of Appeals for the D.C. Circuit for review of the rules. During that period, some Phase I utilities submitted substitution and generation-shifting compliance plans that clearly violated the letter and intent of Title IV by incorporating Phase II units with "pre-programmed" reductions and proposing to use the reductions to offset reductions required for Phase I units. As a result of these developments, in mid-November, 1993, the EPA propose to modify the rules. Pursuant to a settlement involving EDF, NRDC and the utility industry, new rules, with satisfactory modifications, are expected to be promulgated late this fall.

Skeptics of emissions trading might leap to the erroneous conclusion that these problems are inevitable in an emissions trading scheme. In fact they are the product of Title IV's failure to include all utility units in Phase I. This, in turn, prevented Congress from legislatively codifying all emissions reduction requirements. Instead of Phase I compliance being strictly emissions- or performance-based, Phase I depends in part on EPA regulations which, had they not changed, would have defined compliance in a way that did not necessarily deliver what would otherwise seem to be the required emissions reductions.

One way or the other, the problem will disappear after five years when, in year 2000, Phase II begins and the all-inclusive emissions cap is imposed. This should reassure those anxious about the achievement of the emissions reductions required by Title IV. In addition, those fearful that the controversy surrounding the substitution and generation-shifting rules is a harbinger of endless EPA-regulatory uncertainty that will kill the emissions trading market also can put aside their concerns. Since so much of Title IV is performance-driven, little else in Title IV beyond these rules is susceptible to this level of EPA intervention and potential reversal. If anything, changes in these rules are likely to strengthen the market and its environmental performance. A change in EPA's rules that correctly implements the statutory requirements for substitution and generation-shifting strategies will increase the value of truly surplus reductions, increasing the reward available to those who create such reductions. This, in turn, will solidify the pronounced trend, which already exists among Phase I utilities, make more reductions than required.

Thus, despite its imperfections, and particularly if EPA modifies the rules as required, and expected, Phase I is likely to produce substantially more reductions than required. The ability of the emissions trading market to turn surplus reductions into cash appears to be leading utilities to make such reductions. At the same time, however active utilities may be in selling these reductions, overcompliance, in the form of ongoing banks of surplus reductions, is likely to persist throughout the program indefinitely. If so, the market's contribution to the environmental success of Title IV will be unmistakable.

F. The Self-Fulfilling Objectives of Phase II's Design

The purity of Phase II's performance-based compliance system seems to have endowed Title IV with the highest degree of reliability in reaching its emissions reduction objectives. At the same time, the allowance system offers utilities a seamless flexibility in pursuing their compliance strategies. From that flexibility is almost certain to emerge a record that will meet, at least in substantial part, Congress' purposes and expectations.

As discussed in Part I. A, above, even in a universe of exclusively intra-system trading embedded in dispatching, Title IV will have established some basic experience for the use of inter-source emissions trading as a tool for implementing an emissions reduction policy.

G. The Stakes Still on the Table

1. For the Acid Rain Program Itself

Only future events can deliver certain other benefits beyond those that seem foreordained by the design of the program itself. In the absence of a fully developed inter-system and inter-state market in which all utilities participate, ratepayers and shareholders will be burdened with a certain measure of avoidable cost, corresponding to the 30% to 50% of the potential cost savings that lie beyond intra-system efficiencies. Without such a market, Midwestern utilities will miss the potential inter-regional revenues Congress implicitly offered in adopting a market-based approach. At the same time, independent power producers building new plants may have to rely on the EPA allowance auction, mandated by Title IV, to secure the offsets needed for those plants. Finally, independent entrepreneurs may find fewer opportunities to advance their innovations if, instead of a market, they must tailor their approaches and strategies exclusively for intra-system dispatching.

As a market-designed emissions reduction policy, Title IV seems to be free of obstacles to the achievement of a full-blown market. Admittedly, by including such a small percentage of the nation's utility plants in the five years of Phase I, Title IV virtually doomed the market to an exceedingly slow beginning -- a beginning that may be further retarded, however temporarily, if some of the substitution rules necessary to Phase I become the subject of litigation. Phase II, however, will foster precisely the economic dynamics (e.g., a plethora of sources with widely varying costs) that could make market forces almost irresistible. Little if anything in the design of the Phase II allowance system poses a drag on such dynamics, since uncertainty about the rules of the system itself was purposely eliminated (Phase II allowance allocations have already been announced), the rules are simple and transactions costs are minor.

The obstacles to the market's development are extrinsic to Title IV. Rather, they inhere in the institutional character of utilities as publicly regulated entities. Ultimately, it is the establishment of public confidence in the system and the approach that several state regulatory commissions take to ratemaking that will determine whether the economic dynamics of the program will be actualized as a market.

2. For Environmental Law Reform

While the substantial remaining potential of the acid rain program itself awaits the passage of time to determine whether it can be tapped, the startling success of the program so far should serve as a clarion call to environmental regulators on every level. From smog-choked cities to the greenhouse-threatened globe, we face environmental challenges that will not be solved unless we fashion solutions that match the acid rain program's unique environmental performance characteristics as well as its unprecedented capacity for integrating economic activity and environmental protection. The RECLAIM emissions trading program launched in Los Angeles by the South Coast Air Quality Management District, the trading proposals developed by the Illinois EPA for curbing oxides of nitorgen and volatile organic compounds in Chicago, and possibly, throughout the Lake Michigan basin and the joint implementation provisions of the Framework Convention on Climate Change and of the U.S. Climate Change Action Plan suggest that the call is being heard, if not yet fully understood.

Even now, we are in a critical phase of the implementation of Title I of the Clean Air Act for the purpose of bringing U.S. urban regions into compliance with the groundlevel ozone standard. This will involve dramatic emissions reductions, potentially staggering costs and the demand for innovations without which the necessary reductions may not even be feasible, let alone affordable. Much the same can be said of the challenges posed by global warming, which will be addressed next March by the first Conference of the Parties to the Framework Conventon on Climate Change. It is imperative that the EPA and the Clinton Administration seize on the lessons of the acid rain program and apply them aggressively to these environmental problems.

3. For the Electricity Industry

With the push by the California PUC earlier this year to open retail electricity markets in the state, the drumbeat for retail competiton grows louder. Increasing retail competition promises greater economic efficiencies and lower costs that, in the last analysis, few will be able to resist. The fact that strategies and programs embedded in the current regulatory system do much for promoting environmental protection is not a justification for resisting retail competiton, but a powerful argument for ensuring that retail competition is harnessed for preserving -- and improving upon -- the current system's success in providing environmental benefits. The kind of "cap and trade" regime established for SO2 in Title IV illustrates a compelling strategy for internalizing the environmental costs of energy and electricity production. Under such a system, as is already the case with respect to SO2 itself, electricity producers will face strong incentives to adopt efficiency and conservation measures and other innovations for ensuring "clean" generation, an incentive that will be intensified by market competiton itself.

Mr. SHARP. Thank you very much, Mr. Goffman.

Mr. Hawkins, very pleased to hear from you now.

STATEMENT OF DAVID G. HAWKINS

Mr. HAWKINS. Thank you, Mr. Chairman.

Thank you for inviting Natural Resources Defense Council to testify on EPA's implementation of the Acid Rain Program. And on a personal note, I just want to say that I am pleased personally to be a part of your penultimate hearing as a Member of Congress.

As I said in the prepared statement, you invested a major effort, worked very hard with the industry, with all of the environmental groups, to try to frame an acid rain control program that people could live with, that would work. You and your staff listened very carefully to all of the views that were expressed and the product that you helped put together is a part of your legacy that you can and should be proud of. And I was pleased to be able to work with you and your staff as a small part of that.

The thing that I would like to just focus on and highlight from my prepared remarks, relates primarily to the issue of what I regard as the cornerstone of the program, which is the continuous emission monitoring system.

Let me say a couple of words in general about EPA's performance to begin with, though.

We think that on balance EPA deserves high marks for having performed in a thorough manner with serious attention given to making the program work to achieve its environmental objectives, while also avoiding regulatory transaction costs that would limit the benefits achievable from the emission trading component of the program.

The Agency mobilized resources quickly following enactment and issued final rules that detailed the core requirements of the program in just under 2 years after the law was enacted. These core rules were so large that it actually took the Federal Register 2 months to get them published following EPA's signature.

But because of the Acid Rain Advisory Committee work, all of those who participated in the committee had the EPA rules well in advance of the Federal Register, and so were able to start compliance planning well in advance of that date. The Agency held auction allowances on schedule and the Agency and the utility companies have worked to install the continuous emission monitoring systems for Phase I units on schedule.

Turning to resources, which were mentioned by the previous two witnesses, this is an area which I think does require more attention and, frankly, more people and more money. This, as Joe mentioned, this is a high-leveraged program. It is predicted to accrue billions of dollars a year in savings in terms of compliance costs.

Currently, the Agency is investing about 50 people in the headquarters office, about a dozen in the regional offices, and about $5 million a year in running this program, trying to make it work, trying to make it work in a way that delivers environmental performance as well as reduces compliance costs. That, in my view, is not enough money.

They have been—they have been scrimping to move forward. That scrimping has paid a cost in terms of getting these systems on line on a timely basis, the data systems. And that is something that doesn't help the Agency, it doesn't help the industry, and it doesn't help the public and the States that are interested in having a transparent data system.

And I say this in no way to be critical of the acid rain division or the Agency generally. Resources are tight. But this is not a sensible place to, "economize." If we are going to be saving billions of dollars in compliance costs, it makes sense to pour back a little fraction of that as an investment in making this program a flagship program in terms of performing. And that can be done with a very small fraction of the compliance savings that are associated with implementing this program.

Why do I say all of this? I think it is reflecting on the fact that when commentators talk about the compliance savings associated with the program, typically they do not talk about the implications for the Agency that is charged with running the program.

One of the by-products of a highly flexible system that requires transactions to be recorded, is that it takes resources on the part of somebody to keep track of all that stuff. And that somebody in this program is EPA. It has spent a great deal of effort trying to minimize the transaction costs with keeping track of both the transactions and the emissions monitoring data streams.

Everything is done electronically. We have moved away from the era of having huge documents arrive in boxes, sometimes never to get out of those boxes, just to be put in closets in some Federal storage center. We moved away from that.

Now, these data are presented electronically, so they are capable of being maintained on an up-to-date basis and they are capable of being analyzed without having some poor keypunch operator sit down with a box of paper that was originally generated by a computer, printed out on to paper, and then punched back into a computer. We have gotten away from that. Thank goodness for that. But it will take resources and more resources than EPA is applying in order to make use of the intelligence that is provided by all of this data that the Agency is gathering.

One might ask why is the government needed at all in this area? This is a market, why can't the market police itself? And I would just like to say a few words about that.

Why can't, for example, the competing interests of the buyer and seller protect against phoney allowance sales? Well, the SO_2 allowance market is a commodity market that differs in one fundamental respect from traditional ones. And that is, in contrast to traditional markets, the thing that is being sold in the Acid Rain Program is not something that both the seller and the buyer have the capacity to measure.

The seller has the capacity to measure SO_2, or more accurately, SO_2 not emitted. The buyer does not. And indeed, the buyer doesn't care about the accuracy of the measurement. All the buyer cares about is that he or she has a piece of paper from EPA recognizing the legitimacy of the transaction. And that is where EPA comes in.

In order for it to be more than a recognized legitimate transaction and become a real legitimate transaction, the emissions monitoring information needs to be accurate. And in my testimony at length, I have discussed problems that I foresee in the Agency being able to adequately monitor the situation.

Resources are needed to evaluate the installation of the equipment, because these are not, as I say in the testimony, like screwing in a light bulb. These are complex installations. They can be done right, they can be done wrong.

EPA needs to have a thorough understanding of how these systems are being installed so they understand the strengths and weaknesses of various installation practices. They need to be able to review the data as to comes in. They need to be able to conduct audits on a timely basis. And they need to be able to analyze the information to evaluate patterns that indicate whether the monitors are performing well or performing poorly. All of these things can and should be done, but in my view, they will need more resources to do it.

I have suggested a number of questions that I would hope the subcommittee would consider asking the Agency to provide answers to. I think it would be very helpful in analyzing what the resource needs are in order to make this a successful program.

Thank you very much.

[The prepared statement of David G. Hawkins follows:]

David G. Hawkins
Senior Attorney
NATURAL RESOURCES DEFENSE COUNCIL

PREPARED TESTIMONY

Thank you for inviting NRDC to testify today on EPA's implementation of Title IV of the Clean Air Act, the acid rain control program. NRDC is a national membership organization dedicated to environmental protection. NRDC has a longstanding interest in the issue of acid rain. In 1972 NRDC challenged the utility industry's "tall stack" program, arguing it would exacerbate the problem of acid rain. Beginning in 1981 we sought amendments to the Act to address acid rain directly. Since enactment, NRDC has participated as a member of EPA's Acid Rain Advisory Committee and has been involved in developing and commenting on all of the significant rulemaking conducted by EPA under the program. Together with EDF and the Sierra Club we have challenged EPA's rules in court on issues where we believe EPA has violated the law's requirements.

Chairman Sharp, you were instrumental in designing key elements of this far-reaching program in 1990. The care and effort you put into this law is now beginning to bear fruit, both as a means of combatting a major environmental threat and as a model for possible future "market-based" programs. This program is one of many elements of your legacy in Congress that you should regard with pride.

While the bulk of my testimony will identify concerns we have regarding EPA's implementation of the program, let me start on a positive note. The acid rain program is an important development in environmental policy making. It is the first market-based environmental program whose design includes all of the elements needed to achieve desired environmental objectives. Of fundamental importance, the program sets a clear environmental target – a national limit of just under 9 million tons of sulfur dioxide (SO_2) pollution per year from the electric utility industry. Second, the program creates a set of enforceable duties by initially distributing reduction responsibilities to each significant emitting source in the utility sector. Third, a viable trading program to reduce control costs is made possible by coverage of effectively the entire utility industry. Fourth, by supplementing rather than replacing existing programs designed to protect local air quality, the trading program avoids creation of pollution "havens." Fifth, a comprehensive, accurate accounting system of continuous emission monitoring provides a basis for keeping trading "swindles" out of the program. Sixth, effective penalties are provided to remedy noncompliance.

My prepared testimony will concentrate on EPA's early actions to adopt implementing rules for the acid rain program and on issues related to emission monitoring--the centerpiece of an enforceable program. I will be happy to try to answer the Subcommittee's questions on other topics during the course of the hearing.

On balance, EPA deserves high marks for having performed in a thorough manner with serious attention paid to making the program work to achieve its environmental objectives, while also avoiding regulatory transaction costs that would limit the benefits achievable from the emissions trading component of the program. EPA mobilized quickly following enactment of the Act and issued final rules detailing the core requirements of the program in just under two years after the law was enacted. (Indeed, EPA's core rules were such a large undertaking, it took over two months for them to be published in the Federal Register following the Administrator's signature.) EPA held two statutory allowance auctions on schedule that enabled active utilities to acquire allowances at prices substantially below previous government and industry estimates of projected control costs. Phase I units (those with a January 1, 1995 compliance date) installed continuous emissions monitors on schedule and began monitoring their emissions last November, as required by the Act.

EPA's has missed certain statutory deadlines, some by a small amount, others by more significant amounts. As mentioned above, the core rules were issued about two years after enactment, rather than after 18 months as the law required. However, given the process of collaborative rule design followed by the Agency during meetings of the

Acid Rain Advisory Committee, interested parties were able to gain a good sense of the rules' requirements well before their signature.

EPA's rules for nitrogen oxides (NO_x) control were more substantially delayed; indeed a citizen suit by environmental organizations proved necessary to get EPA on a schedule to issue these rules. The final rules were not issued until February of this year, while the Act required their issuance by May 1992. The "blame" for this delay is a matter of some debate. From NRDC's perspective, the bulk of the added time was consumed by EPA's efforts to respond to arguments raised by the utility industry objecting to EPA's approach to the Act. Many months were spent in executive branch review prior to proposal. Additional months were spent in responding to voluminous comments submitted by the industry both during and after the public comment period. This is in no way to argue against the industry's right to comment and object; but controversy and speed do not often go hand in hand (as is reflected in the time it took for Congress to enact the 1990 Act--a process that began with reauthorizing efforts in 1981).

More recently EPA has delayed the start of NO_x emission monitoring for certain Phase II units--an item I will discuss more below.

You asked about the role of the Acid Rain Advisory Committee (ARAC). I believe the ARAC process was time well spent. On many issues, the ability of all stakeholders to discuss concerns face-to-face enabled a resolution of issues in a manner satisfactory to all. To be sure, important areas of disagreement remained but the ARAC process allowed all participants to understand the bases for these differences. Thus, I strongly endorse the ARAC process and commend its use in other programs.

Turning to resources, in my view EPA needs to apply more dollars and people to the tasks of implementing the acid rain control program. Following an initial staffing up starting in FY 1991, EPA's resources for the acid rain program have remained essentially flat from FY 92 to today, despite growing program needs. EPA's program resources consist of approximately 50 full-time slots in headquarters, another dozen slots spread across EPA's ten regional offices and about $5 million for contracting services.

Commentators have spoken often of the innovative market-based nature of this program; less frequently have they recognized the implications of this feature for agency resource needs. While the program can and will save large amounts of compliance costs for industry and ultimately the public, to achieve the program's environmental goals we will need to invest a small fraction of those savings into upgrading agency resources to insure the market functions as intended.

Estimates are that the program's allowance trading design may save several billions of dollars each year in compliance costs. Compared to projected compliance savings, adding additional staff and doubling or tripling EPA's current contracting budget of $5 million dollars would be a very small investment with a very large return in program effectiveness.

On the other hand, failure to make this investment is likely to lead to serious problems with emissions reporting and compliance. These problems not only will threaten the program's environmental goals; they will cause questions to be raised about the real-world ability of market-based programs to perform. The acid rain program is the flagship environmental market program; EPA must apply more resources to ensure the lesson that it teaches is a positive one.

One might ask, why is the government needed; why can't the market police itself, with the competing interests of buyer and seller protecting against phony allowance sales? Well, the SO_2 allowance market is a commodity market but it is different in one fundamental respect from traditional markets. In traditional markets both the seller and buyer of the commodity have the ability to measure the thing that is being sold. The seller of a trainload of coal can weigh it and test it for quality before shipping and the buyer can do the same on delivery. Each can invest sufficient testing resources to assure it is receiving what it bargained for.

The SO_2 market is different: only the seller can measure the commodity--tons of SO_2--or more accurately, tons of SO_2 not emitted. The buyer not only has no means to measure the commodity, he has no interest in the accuracy of the seller's claimed emission reductions. All the buyer cares about is whether a third party, the government, recognizes as valid the allowances the seller has transferred. Since the buyer cannot and does not check the seller's claims, the government must fill this role. It can do so by prescribing a measurement procedure--continuous emissions monitoring (CEM)--for SO_2 emissions and by devoting adequate resources to reviewing monitoring reports to ensure compliance with the required measurement procedure.

We do not believe EPA now has sufficient resources to guarantee an effective measurement program. EPA's role must be to assure that CEM systems are capable of measuring SO_2 accurately, that they do in fact measure accurately in operation, and that companies' monitoring reports are complete and accurate. This is no small task.

To establish an adequate program EPA first must carefully review each plant's monitoring plan prior to installation and visit plants to verify adequate installation. This is required because installing a CEM system is more involved than screwing in a light bulb. To measure emissions accurately, the CEM system must be placed at a location in the plant's exhaust system where the monitoring instruments will "see" a representative stream of the plant's stack gases. The flow in power plant stacks, particularly stacks serving more than one generating unit, is complex, with patterns varying based on operating conditions. Faulty placement of CEM probes could well produce erroneous readings.

About 200 CEM systems at about 100 different plants were installed last year at Phase I units. It would be helpful for the Subcommittee to ask EPA to describe the procedures it followed to review monitoring plans and installation of these systems, including the number of people and hours it devoted to these reviews.

Phase II of the acid rain program requires CEM monitors to be installed by the beginning of 1995 at approximately 2000 additional units--a dramatic expansion of the program and of EPA's workload. Recently EPA delayed the Act's deadlines for installing CEM's for NO_x at oil and gas plants because it did not have the resources to review all of the monitoring plans for Phase II units. While this was a responsible decision under the circumstances, it demonstrates the existence of a significant resource problem.

Following CEM installation, EPA must apply resources to track and review the quality assurance procedures set forth in its rules. CEM instruments operate in a hostile environment: turbulent, hot, dirty gas streams. They will deteriorate and the accuracy of measurements will suffer unless plant operators spend time and money to keep them running right. EPA's paper procedures must be backed up by a demonstrated ability by the agency to check real-world compliance with those procedures. We suggest the Subcommittee ask EPA for a workload analysis of the personnel and dollars required for EPA to monitor actual quality assurance practices for Phase I units and for Phase II units.

Next EPA must review quarterly monitoring reports. These reports determine how many allowances are deducted from each unit's account to assess compliance at the year's end. They are the keystone of the structure that will make the flexible market-based approach enforceable. Monitoring reports must be thoroughly reviewed by EPA to achieve intended emission reductions and to assure all participants in the program--buyers, sellers, brokers, and the public--that allowance trading is based on a sound currency, backed by accurate emissions data.

CEM reports contain massive amounts of information, over 2000 hours of data points every quarter for every CEM with several data elements reported for each and every hour. However, because all CEM reports are computerized, it is possible for EPA to conduct thorough reviews of these reports if adequate resources are applied. In my opinion EPA does not now have these resources. It appears that EPA currently has sufficient resources to conduct only rudimentary reviews for completeness of data fields and basic inconsistencies in data entries.

CEM reports can be essential tools for evaluating performance of CEM systems in the real world through sophisticated analysis of patterns that differentiate well-functioning systems from deteriorating ones. EPA should be asked to detail its plans to review and analyze CEM reports and to describe the resources needed for adequate assessment of these reports.

Finally, CEM reports and allowance transactions are not just EPA's business; they are the public's business. By making the allowance and CEM data systems open systems, the Act enables citizens to participate in implementing and enforcing the acid rain program. It also allows market participants--brokers, vendors, investors--access to information that may highlight new market opportunities. To make these objectives a reality, EPA must implement an effective means of public access to the allowance and CEM data systems. This does not now exist.

Currently, to examine CEM data the public must file individual Freedom of Information requests with EPA. While EPA staff have been very helpful and cooperative in responding to these requests, this approach is inefficient and burdensome both to the public and to EPA. EPA has program plans to establish a method of secure on-line access by the public to CEM data but that program has been delayed due to budget constraints.

It is critical that EPA complete a public access system during FY 95. The first year of enforceable acid rain emission reductions begins January 1, 1995. A public access system can and should be implemented before the end of 1995 so that States and the public have a basis for assessing compliance by individual units and companies with their Phase I control obligations. We urge the Subcommittee to seek a commitment from EPA that it will complete during FY 95 a system allowing on-line access by the States and the general public to EPA's CEM and allowance data systems.

You ask whether we will see the emission reductions mandated by the Act. In my opinion, the answer to this question turns on the quality of the emission monitoring program: if the program permits emissions to be understated then the program will not achieve its emission control goals. I have just discussed problems with EPA resources that could jeopardize a fully effective monitoring system. Now I would like to highlight several substantive problems with the rules themselves that could lead to understatements of emissions. NRDC, EDF, and the Sierra Club have sought judicial review of these provisions in a case that is now pending. We are hopeful that these concerns might be resolved through settlement negotiations but they are worth describing here.

First, EPA's rules set inadequate standards for accuracy in monitoring. To measure tons of pollution two items must be monitored: the concentration of pollutants in the gas stream and the total volume or flow of the gas stream. EPA's rules allow systems that measure concentrations to be off by as much as 10% compared to official EPA reference test methods; flow measurements are allowed to be off by as much as 15% in the program's early years and by 10% thereafter. EPA has not limited the allowable combined inaccuracy of the concentration and flow measurements, although it has stated an intention to do so in the future.

We do not regard EPA's accuracy standards as acceptable for a market-based system where every ton can be converted into an allowance to emit. A commercial bank would not be allowed to operate with an accounting system that was off by 15%. Imagine a bank where you could deposit $8.50 but be credited with a $10 deposit and withdraw $11.50 but only be debited $10. It would be a popular bank while it lasted--which would not be long.

The inaccuracies tolerated by EPA's rules are not necessary under the allowance system. We proposed to EPA an incentive system that would reward companies with highly accurate monitoring and penalize those with inaccurate systems. Under this approach EPA would set an initial accuracy benchmark based on current state-of-the-art by industry leaders. Companies whose systems achieved better accuracies than the benchmark would receive bonus allowances from a reserve maintained by EPA; companies with poorer accuracy performance would be docked allowances. The docked allowances would make up the reserve that would be used to reward the superior performers.

After several years EPA would review industry-wide performance and adjust the benchmark to reflect improvements in accuracy. In this way allowances would be used as an incentive to improve currently deficient systems, stimulating extra efforts by plant operators and investments by monitor vendors to develop more and more accurate monitors. However, to date EPA has declined to implement this approach.

Another concern relates to missing data. To avoid understating annual tons, all hours of the year must be measured or conservatively estimated. EPA's rules allow operators to miss up to 10% of the hours in the year before they must use the maximum recently measured hour as the estimated value for a missing data period. As with the accuracy objective, the allowance system can be used to create incentives for improving the ability of CEMs to minimize missing data periods. We have recommended EPA implement a similar allowance debit and reward system indexed to an improving benchmark representing best practices in minimizing missing data.

The missing data procedure for units equipped with add-on control devices is a separate problem. For short missing data periods EPA's rules allow operators to use the average of the hours before and after the monitor outage to estimate emissions. However, units with add-on control devices (e.g., scrubbers, selective catalytic and noncatalytic reduction) can have very large swings in emissions from hour to hour due to variations in control efficiency. A unit with a 95% efficient scrubber can have up to a 20-fold difference in emissions between an hour when the scrubber is operating at full removal efficiency, compared to an hour when the scrubber is off-line or malfunctioning. EPA's rules need to be tightened to require independent reliable evidence of the removal efficiency of control devices during missing data periods.

To conclude, Mr. Chairman, EPA has taken many good first steps in implementing the acid rain control program and has made some missteps. All of the concerns I have discussed above are correctable. To fulfill the promise of the program EPA will need to apply more resources and be unswerving in pursuing the objective of full and accurate emissions reporting. Oversight by this Subcommittee will continue to be necessary and helpful in assisting EPA to meet its obligations.

Mr. SHARP. Thank you, Mr. Hawkins.

STATEMENT OF JERREL D. SMITH

Mr. SMITH. Good morning. Thank you very much for inviting the Institute to this hearing. I am employed by Union Electric Company in St. Louis, I am representing the Institute today. It appears to us that this program is indeed a very great success. The trading program is very helpful to the industry. In adopting the approach that Congress took when it enacted the legislation, it did make a bold move away from simply command and control programs, and this is very helpful. It removes a good bit of the uncertainty about your ability to be able to comply at the end of the year with the tons that you have been allocated.

The costs of the tons, the allocations, have been dropping. I think the trading program has had an effect on that. We have also seen other market forces that are helping that, such as the competition between the installation or the costs of installation of some of the scrubbing systems and the fuel competition. While we are confident that we will be meeting these programs, there are a few crosscutting issues that EPA is dealing with now that could impact the program:

First, EPA is considering adopting a short-term SO_2 ambient standard, which would place stringent controls on some of the power plants and the Science Advisory Board has determined that this is not needed. And I think we need to pay careful attention to how these crosscutting issues might affect this program.

Second, EPA is considering enhanced monitoring rules that could also greatly affect some of the operations. And we must be careful to apply those where they are needed and not just broadly. This would place a very great burden on EPA. I think there is some 30,000 or 30-something, about 30,000 sources that may have to provide programs for enhanced monitoring.

Third, EPA is considering broad changes to the new source review regulations that would contravene the Congress'—the commitment to Congress, when this legislation was enacted. If EPA were to impose these rules that are being considered, it could significantly affect the outcome of the program.

Finally, I would like to point out another issue and that is the importance of the Federal Regulatory Commission in addressing the matter of rulemaking and the treatment of allowances and short-term energy sales. We would propose that the price of the allowance that goes with that sale be based on the market price at the time of the sale. And we do need that certainty built into our program so that we know that we are going to recover that price.

In other words, we have allocations that have a zero base price that have been developed through the program and we don't believe that putting that value on the transfer of initial allocations would be proper. We may sell power one day and buy it back the next. We need to have the certainty in those programs.

That concludes my comments. I would like to say that for my company and on behalf of the Institute, we do appreciate all the years of your work on energy programs, not just on the Clean Air Act. And thank you for all of that time.

[The prepared statement of Jerrel D. Smith follows:]

TESTIMONY OF JERREL D. SMITH
VICE PRESIDENT FOR ENVIRONMENTAL, SAFETY & HEALTH
UNION ELECTRIC COMPANY

TESTIFYING ON BEHALF OF THE EDISON ELECTRIC INSTITUTE

The Edison Electric Institute -- the national association of investor-owned electric utilities -- appreciates the opportunity to share with the Subcommittee its views on the implementation of the Acid Rain Program under Title IV of the Clean Air Act.

I. The Electric Utility Industry's Efforts To Make Title IV a Success

Title IV has thus far been a success. In adopting a market-based approach for addressing concerns about acid deposition, Congress made a bold departure from the command and control methods traditionally used in environmental regulation. In doing so, Congress gave the electric utility industry the opportunity to achieve further emission reductions at the lowest possible costs. The industry has made the most of that opportunity, undertaking a variety of innovative compliance strategies that have indeed enabled us to move toward realizing these reductions at costs that, while high, appear to be lower than expected.

We are confident that the electric utility industry will achieve the reductions in sulfur dioxide emissions that Congress intended. By combining a unit-by-unit allowance accounting system and state-of-the-art emission monitoring, Title IV ensures that emissions will be carefully measured and audited. Emissions will be limited because of the limited number of allowances that are authorized for Phase I and because of Congress' decision to establish a binding cap of 8.95 million allowances in each year of Phase II. As discussed below, we expect that emission reductions during Phase I will be much greater than required under the Act.

Under Title IV's market-based system, a utility has a variety of options for complying with the SO_2 emission reduction requirements. Actions can be taken to reduce emissions by switching to a lower sulfur fuel, installing scrubbers, or purchasing allowances from other sources. Of course, not every utility can choose to comply solely by acquiring additional allowances because the total number of allowances allocated by EPA will only be enough to cover emissions at a level far below the baseline levels.

In practice, utilities have taken full advantage of the flexibility offered by Title IV's market-based system, adopting a wide variety of individual compliance plans, many of which have involved innovative contractual arrangements. For example, a number of utilities plan to comply through the installation and operation of SO_2 scrubbers at 16 different plants, involving 24 different units, as participants in the Phase I extension program. This program provides 3.5 million bonus allowances for Phase I units that install and operate high efficiency scrubbers. Because the utilities that will install such scrubbers were eligible to apply for more than the total reserve of 3.5 million allowances, EPA decided to conduct a lottery to determine which units would have to be excluded from the program. To avoid the risk that any unit would receive no bonus allowances at all, the eligible utilities entered into a voluntary "pooling" arrangement by which the parties agreed to share the 3.5 million allowances on a pro rata basis among all of the participants in the lottery.

Other utilities are planning to comply with Phase I requirements by switching to lower sulfur fuel, while still others have decided to acquire allowances on the market. In addition, some utilities are looking at offers from coal suppliers to bundle allowances with coal based on the relative sulfur content of the delivered coal.

While the specific compliance approaches vary, a basic Phase I compliance strategy for many companies appears to be to ensure some degree of allowance self-sufficiency because of uncertainty about the availability of allowances in the market. Given utilities' desire to generate additional allowances through emission reductions, Phase I emissions are expected to be substantially below the level permitted under Title IV. The Environmental Defense Fund has estimated that Title IV requires total emission reductions during the five years of Phase I of between 14 million and 17.5 million tons. EDF has reported that we are likely to see additional reductions during Phase I of between 5 million and 14 million tons.[1]

In this regard, Congress' decision to permit the "banking" of allowances in excess of those necessary to cover emissions in a given year has been crucial to the success thus far of the Title IV program. It is clear that there are cost savings to be realized not just across different units, but also over time even at a single unit. The ability to hold over allowances for use in a future year has permitted utilities, in effect, to trade with themselves. As a result, the industry has been able to take advantage of the benefits of this new market-based regulatory approach even in the earliest stages of the market's development. The additional Phase I emission reductions described above are tied directly to the ability to bank allowances.

Although the flexibility of the market-based approach will reduce the overall cost of compliance with the SO_2 emission reductions required by Title IV, the cost of that effort remains very substantial. A typical utility will have to spend hundreds of millions of dollars, regardless of the method of compliance it chooses. Scrubber systems involve not only enormous capital expenditures but also high additional operating costs. Switching to low sulfur fuel is also costly, whether because of the increased transportation costs or the imposition of a sulfur-based cost premium or both. Needless to say, buying allowances in the large quantities that may be required will also represent a major expenditure. In emphasizing the cost advantages of Title IV's market-based approach, we should not lose sight of the fact that the cost of achieving the required emission reductions, even through a market-based approach, remains very high.

Utilities also are incurring substantial costs to install additional emission control equipment to comply with EPA's nitrogen oxide (NOx) regulations for coal-fired power plants under Title IV. Utilities are concerned that they may be required to undertake one set of emission controls under Title IV only to see different, and perhaps more stringent, controls required in the future under the Title I nonattainment provisions. Although many parts of the country are affected by this uncertainty, utilities in the Northeastern Ozone Transport Region are particularly concerned because of the extreme NOx reductions that may be mandated in that region under Title I. On the other hand, utilities are encouraged that emission credit trading programs -- which could extend to Title I at least some of the benefits of the Title IV market-based approach -- may become part of the nonattainment program. If properly structured, emission credit trading should have the effect of reducing emission control costs.

EPA has experienced substantial delays in the regulatory implementation of Title IV. On the other hand, EPA is to be commended for involving members of the public in the regulatory development process through its Acid Rain Advisory Committee. Notwithstanding the subsequent delays in EPA's regulatory implementation of the program, however, it appears that the utility industry is on schedule for compliance with the SO_2 program by January 1, 1995. Moreover, the Agency should be commended for recognizing the need for unfettered allowance trading and for promulgating regulations that generally promote that result. For example, EPA's decision to assign serial numbers to allowances, so that each allowance can be uniquely identified, will greatly facilitate allowance trading and accounting and simplify tax management of allowance transactions.

II. Development of the Allowance Market

The allowance market has made great strides in the last year. Although the Act in theory permitted allowance trading right away, as a practical matter utilities had to wait until EPA had adopted final regulations before they could finalize their compliance strategies and begin trading in earnest. Even then, because the market was so new, utilities were understandably tentative. Participants in the first transactions faced a substantial risk that they would find that they had paid too much or received too little. EPA's first allowance auction in March 1993 gave the market a needed push by establishing a general range of prices at which parties were willing to buy or sell allowances. The bids and offers at EPA's second auction in March of this year were more closely aligned to one another than were the bids and offers at the first auction, suggesting that the market is beginning to sort itself out.

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[1] Letter of James T.B. Tripp, Joseph Goffman, and Daniel J. Dudek, Environmental Defense Fund, to the Honorable Thomas C. Jorling, Commissioner, New York State Department of Environmental Conservation, March 11, 1993, p. 3.

As a result, the pace of private transactions has been increasing. There are now several companies that are brokering allowances, and it is possible to trade in allowance options and to engage in forward transactions. In addition, the Allowance Tracking System that the Agency brought into operation this year seems well designed and should facilitate allowance trading.

Moreover, relatively low allowance prices may help to generate transactions. The market prices of allowances have been declining over the past two years, and current prices are lower than originally expected. Allowance prices fell below $200 after the first EPA allowance auction, and have generally continued to decline. Currently, the price of a Phase I allowance is about $150 and the price of a Phase II allowance is about $140.

III. Threats to the Success of the Program

Although the acid rain program has been a remarkable success thus far, there are several threats to its continued success. This testimony addresses three of the most prominent examples of such threats. In addition, the testimony briefly addresses a concern about ratemaking treatment of allowance transactions that requires immediate attention from the Federal Energy Regulatory Commission to ensure the smooth operation of the allowance market.

A. A Short-Term Sulfur Dioxide Standard

First, EPA is considering imposing stringent new limits on 5-minute average ambient SO_2 levels. EPA's air office staff has recommended that the Agency either add a new 5-minute national ambient air quality standard or develop a program under the emergency provisions in sections 110 and 303 of the Act. Either program could significantly limit the discretion of electric utilities to pursue the most cost-effective strategies to reduce their emissions of SO_2 under Title IV, thereby increasing the cost of emission reductions.

The justification for either of these programs would be to provide a further measure of protection of the health of a subcategory of the asthmatic population. No one suggests that maintaining the flexibility of the Title IV program is more important than removing real threats to the public health. In pursuing these regulatory options, however, EPA is apparently departing from the consensus of the Agency's own independent scientific advisors -- the Clean Air Scientific Advisory Committee established under section 108 of the Act -- that "the exposure scenario of concern is a rare event" that "will become even rarer in the future" as the 1990 Clean Air Act Amendments are implemented. For this and other reasons, these advisors unanimously recommended against a new 5-minute ambient air quality standard.[2]

The Edison Electric Institute hopes that EPA heeds the advice of its advisory committee with regard to a new ambient standard. And, for the same reasons, we hope that EPA does not try to use the Act's emergency provisions to establish some other form of regulation that is the equivalent of an ambient standard. Of course, if there are a few rare cases in which the imminent and substantial endangerment to health that is referred to in the Act's emergency provisions actually occurs (and we would argue that the levels at which EPA is looking do not pose such an endangerment, even to asthmatics), a tailored response to those situations would be appropriate. Such a limited, tailored approach would pose far less of a threat to Title IV than the measures currently under consideration by EPA.

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[2] Letter from George T. Wolff, Ph.D., Chair, Clean Air Scientific Advisory Committee, to the Honorable Carol M. Browner, Administrator, EPA (June 1, 1994).

B. Enhanced Monitoring

Second, EPA has proposed rules for "enhanced monitoring" under section 114(a)(3) of the Clean Air Act that could further interfere with utilities' Title IV compliance decisions by tightening existing emission limitations for SO_2 and NO_x and by making some newly applied monitoring protocols obsolete. Under EPA's proposal, all major utility sources would be required to develop and implement enhanced monitoring protocols for determining compliance with each existing non-Title IV emission limitation. Protocols would have to comply with stringent criteria and procedures specified in the rule, including requirements for frequency of measurement, quality assurance, recordkeeping, and reporting.

For some emission limitations applicable to utility units (e.g., limitations expressed in pounds per million Btu without a specified averaging period), application of EPA's proposed rules could result in the imposition of an averaging period that would significantly increase the stringency of the emission limitations. Under the approach that EPA is currently contemplating, utility units may be forced to significantly reduce their emissions just to remain in compliance with their limits. This would be done even though there has been no demonstration that existing limits are inconsistent with the public health and welfare goals of the Clean Air Act. Further, because some monitoring protocols approved under Title IV may not satisfy the proposed enhanced monitoring specifications, some newly applied parametric monitoring techniques may have to be replaced just as they are being successfully implemented.

EPA has received numerous comments questioning the legality of its proposal. Commenters questioned EPA's authority to impose new compliance methods without engaging in rulemakings on the underlying standards. Such rulemakings are necessary to assess the effect of the method on the standards' stringency and the reasonableness of the new protocol. If EPA does not fully address these problems before it issues a final enhanced monitoring rule, many utilities' investments in the Title IV program may be lost and their compliance options constrained in a way that, we believe, was not intended by Congress.

C. New Source Review and the "WEPCo Rule"

EPA's current efforts to reform its New Source Review (NSR) rules pose a distinct threat to utilities' ability to comply with the acid rain program in a timely and cost-effective way. In this regard, the Agency's recently released draft NSR proposal is a significant departure from the broad and workable pollution control project exclusion that was adopted as part of the so-called "WEPCo rule" in July 1992.

As EPA anticipated, in the two-and-a-half years since the WEPCo rule was promulgated, utilities have been able to install most pollution controls without first undergoing NSR and "without uncertainty as to the applicability of the various title I new source requirements."[1] In its draft NSR proposal, however, EPA solicits comments on whether the WEPCo rule for utilities should be repealed or retained. If the WEPCo rule were repealed and utilities were covered by the changes the Agency contemplates making to its NSR regulations, many pollution control projects would be subject to the NSR process.

The deleterious consequences of reversing course and subjecting pollution control projects to NSR are immediately apparent. Utilities were ordered by Congress to reduce NO_x emissions (after timely issuance of regulations and guidance by EPA) on a schedule that is simply incompatible with undergoing NSR prior to the installation of such controls. The use of low NO_x burners was specifically contemplated under Title IV. Similarly, utilities are obligated to achieve SO_2 reductions that in many cases will require fuel switching or the use of scrubbers. No provision has been made for extending the presumptive 1995 and 2000 compliance deadlines in the Title IV program to account for the 12- to 18-month delays typically associated with undergoing NSR.

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[1] 57 Fed. 32,314 (July 21, 1992).

It should be recalled that the WEPCo rule was adopted in response to a commitment made by then-EPA Administrator Reilly during deliberations over the 1990 Clean Air Act Amendments, which led to the withdrawal of proposed legislation that would have overturned an aberrant EPA policy on NSR. Pursuant to EPA's policy at that time, the Agency sought to apply NSR requirements to nearly every activity at an existing source that might lead to an increase in emissions, ironically including the installation of pollution controls. If EPA repeals the WEPCo rule and adopts the revised NSR rule as currently proposed, the Agency will have largely reneged on the commitment it made to Congress in 1990.

D. FERC Should Permit Allowances To Be Priced at "Replacement Cost" in Coordination Energy Transactions

Finally, the Federal Energy Regulatory Commission has not yet addressed a key ratemaking issue: how to cost allowances that are used in short-term, or coordination, energy sales. Utilities have on file with FERC thousands of contracts for such energy sales, and allowance transactions likely will occur under a great many of those contracts. Because the emission limitations under the acid rain program will go into effect on January 1, 1995, less than three months from now, it is crucial that the regulatory costing of allowances involved in these transactions be addressed soon.

EEI believes that the optimum cost for ratemaking treatment is to price allowances at their replacement cost at the time of the energy transaction. This is consistent with FERC policy toward ratemaking treatment of variable costs and it is consistent with Congress' goal of using market forces to reduce SO_2 emissions at the lowest cost. Such a policy would support efficient utility planning. Alternative ratemaking approaches can be followed by individual utilities.

Replacement cost will allow utilities to flow benefits back to other customers and it will send the right price signal because it correlates the sale price with the economic decision of whether or not to generate. EEI plans to propose that the energy purchaser can also supply its own allowances and ask FERC to confirm that it will not regulate allowance purchase transactions. In this way, ratepayers will gain the benefits of an active allowance market -- lower electricity rates and least-cost reductions in SO_2 emissions.

IV. Conclusion

In sum, the electric utility industry is working hard to make sure that Title IV is a success. There is little question that because of the industry's massive -- and enormously expensive -- compliance effort, the emission reduction objectives intended by Congress will be achieved.

There are, however, storm clouds on the horizon. These clouds are looming in the form of additional regulatory burdens on the electric utility industry that Congress did not contemplate when it enacted the acid rain program four years ago. Those burdens include (1) a possible new sulfur dioxide ambient air quality standard that has not been shown to be needed to protect the public health, (2) enhanced monitoring rules that could greatly tighten existing emission limits on power plants without any public health or public welfare basis, and (3) broad changes to the new source review regulations that would create obstacles to installation of pollution control equipment needed to comply with Title IV. If EPA imposes these unnecessary regulatory burdens, they could frustrate achievement of Congress' goal of unprecedented emission reductions at the lowest possible cost to society.

Finally, as noted above, it will be important for the Federal Energy Regulatory Commission to address promptly key issues concerning ratemaking treatment of allowances used in making short-term energy sales. In particular, FERC should provide that, in determining how to cost such allowances, the replacement cost of the allowance at the time of the energy transaction may be used.

Mr. SHARP. Thank you very much.

Mr. Rose, happy to hear from you now.

STATEMENT OF KENNETH ROSE

Mr. ROSE. Thank you, Mr. Chairman, and thank you very much for the invitation to speak before you this morning.

Let me just start off by saying I feel like a bit of a curmudgeon here in that while I think overall the program has been a success, I don't think we are seeing the full benefits of the program. And the best way to explain that is maybe to begin with this kind of a simple economics of how a trading program is supposed to work.

Basically, those with marginal compliance costs below the market price of allowances adopt their compliance option or options and they adopt it up to the point where their costs are equal to the allowance price. If they have excess allowances, then they sell them. If they have—or they save them for their own future needs.

Those with compliance costs that are above the market price, are in theory supposed to purchase the allowances from other low-cost sources. This is the inter-utility trading that Joe Goffman referred to.

Quite simply then, looking at overall the trading program, what we should see is when we look at the compliance costs of the utilities, there shouldn't be any utility incurring compliance costs above the market price of allowances, or at least not too much. We wouldn't expect perfection, but you think that they ought to either be below it or just within range of it.

However, we are seeing substantial compliance costs being incurred above the market price. And in one region, in fact, in one study by the Electric Power Research Institute, it is up to six times the allowance price, which is more than we would expect in cases like this. Now in theory, this shouldn't be happening. I feel a little bit like the Englishman when he first saw a giraffe, exclaimed: That is impossible.

As you probably also heard, an economist is somebody who lies awake at night wondering if what he observes in practice is possible in theory. And here is a case, too, where the theory and practice are kind of—are a little different.

Now, let me make it very clear that there have been some trading. Illinois Power in particular, has used this option and very effectively, but it is obvious—really the only utility in Phase I that took advantage of inter-utility trading. Also, there have been considerable savings from the program from trading within the utilities' programs and the flexibility that the utilities have. So we are way ahead of the game, what we would have been if this had been a command and control regime.

What we are talking about is perhaps a little more than fine-tuning, but a little—trying to get the full benefits of the program. Now, the full benefits of the program, by the way, is not a trivial amount.

Also, by this EPRI estimate, a very modest estimate of the full benefits of the trading, that is going from inter-utility trading, that is within the utility system, and trading from outside of the system, is, I would say very modestly, would be about $.5 billion to a little over $1 billion per year. Which is a substantial amount of money, at least in my pocketbook. It brings to mind Everett Dirkson's famous line about: A billion here and a billion there.

So how does this come about, then, is the question that I have wondered about for some time. How did this inverted market come about and why aren't the utilities taking full advantage of it? I have collected several reasons, five that are often given; two, I don't think are really that significant, although they may have played a small role; and three, I think are far more significant.

The first one, which I don't think has really been very significant, is the EPA rulemaking uncertainty. Some people cited the substitution rule, the allowance tracking system delay, that may have affected some of the trades.

Personally, I don't think that this was much of a deterrent to trading. Particularly the allowance tracking system, since there wasn't a lot of trading going on; you could use a piece of paper and keep track of it. You didn't need a fancy computer to watch it. In fact, that is what I was doing, just collecting it in a notebook.

In fact, I would say that the EPA deserves a great deal of credit for what they have been able to do, given their budget constraints. And in particular, since I worked for the State Public Utility Commissions, I believe EPA gets a great deal of credit for reaching out to the State commissions to educate them about the program and help them out in trying to implement it on their end of the trading issue.

Another often-cited reason is the tax treatment of allowances. The tax treatment of allowances clearly has an effect on the sellers of allowances. Because if the original allocation is received at zero cost from EPA, the IRS has ruled that that is then the basis, and they are subject to the tax of, roughly, a third, plus any State taxes that would apply when they sold the allowances.

However, the problem with the allowance market so far isn't that there is not enough sellers of allowances; the problem is there aren't enough buyers and the tax treatment has no effect at all on the buyers of allowances. Those who want to purchase allowances, as the utilities that have done so have demonstrated, have had absolutely no trouble in finding those. So those—that also, I don't think, is a problem, at least at this time. If we get to a more robust market where there is more trading, it may become more of an issue, but at this time, I don't think so.

The three more significant reasons that I believe did have an impact on this lack of inter-utility trading and the utilities taking—I have characterized what the utilities are doing as a self-sufficient standpoint. Generally, what we are doing is looking at their own internal systems rather than trying to look beyond the—beyond for other cost-savings opportunities.

A significant reason for this is because of the legislative actions by some States where many Phase I-affected States passed legislation that basically ensured the continued use of in-State coal. That clearly had an effect on some of the outcome and the choices that the utilities were able to look at.

A second possible reason is the bad press that followed, particularly the first couple of allowance transactions. In general, electric utilities are not the most popular people in their area, and a banner headline that says that so and so utility purchased the right to pollute, doesn't inspire a lot of confidence in them and may make them a little reluctant to do that sort of thing.

Mr. SHARP. They seem to be in competition with our local Congressmen for popularity.

Mr. ROSE. I think over time, by the way, that issue is probably going to be dying down, because we don't see quite as much of that in recent trades. In fact, now trades that have happened more recently get no press at all. In fact, they rarely are even mentioned in the trade press, in the electric utility trade press.

The biggest single factor, though, the third one of the significant ones, is the regulatory treatment of allowances and compliance costs by the State commissions and the Federal Energy Regulatory Commission. The Federal Energy Regulatory Commission has said nothing at all about the rate treatment of allowances. And, in fact, in their accounting statement, which is their only official formal rule on this issue, they went to great lengths to say that the rate-making treatment is not affected at all by what they said in that accounting rule.

In general, the States now, the ones that have issued any guidance on this, have said that they are going to use automatic pass-through provisions similar to the fuel adjustment clauses for fuel costs. This really provides utilities with very little incentive to use the market and causes somewhat of a disconnect between the compliance costs that the utility is incurring and the market price of allowances.

Also, another feature that was common in Phase I-affected States, particularly the heavier affected one, was preapproval of compliance costs. This has a tendency to lock the utilities in to a given scenario.

Preapproval is a very costly, time-consuming process that the utilities have to go through and they are very reluctant to have to come back because the price dropped, as we did see. It was much below what most of the utilities assumed it was going to be just 2 years ago. In fact, it is less than half, in most cases, in what they assumed in those scenarios.

One State, however, and this is one of the most recent actions, did make this critical connection between the market and the price. And that is the State of Georgia. It is my hope that other States will follow their lead.

What they basically said was that if the—if their compliance costs are above the allowance price, then they have to explain why there is that difference. It is as simple as that.

It is only one paragraph in their rule, but a very important paragraph. And it is my hope, as I said, that other States will follow this lead, since this is one of the last—one of the most recent actions by any State.

Needless to say, the State commissions have been distracted by other issues right now. Outside management, IRP, competition at the wholesale level, the FERC transmission rules, have all distracted them from this issue in recent years. In fact, I can date the drop off in interest in the Clean Air Act right around the time the Energy Policy Act was passed.

Almost precisely the moment that George Bush signed that law, everyone said the clean air what? In a sense, though, we can learn a lot of lessons from what has happened so far. I like to think of the allowance trading system as perhaps a dress rehearsal for a more competitive industry. And I, for one, hope that it is not a pattern that is repeated and that given some regulatory changes we can achieve more of the full benefits of the program.

Thank you, Mr. Chairman.

[The prepared statement of Kenneth Rose follows:]

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THE SO_2 EMISSIONS TRADING PROGRAM: EVENTS AND LESSONS SO FAR

Title IV if the Clean Air Act Amendments of 1990 established for the first time a national emission allowance trading program. Since the phase-I requirements begin on January 1, 1995 and utility plans for compliance must be made in advance (because of the lead time of some compliance options), utilities have determined and established their phase-I compliance actions. Consequently, an examination of utility strategies, the allowance market, and regulatory actions can now be examined.

The argument for market-based environmental programs is that they result in a lower cost of compliance than command-and-control mechanisms for the same level of emission control.[1] Estimates of the potential cost savings that could result from the SO_2 trading program range from $1 billion to $3 billion per year.[2] The evidence from utility actions so far suggests that utilities have not taken full advantage of the trading programs' opportunities. Although there are several reasons for this, the most significant may be that the SO_2 allowance trading system is being primarily applied to an electric utility industry that is subject to economic regulation. To realize the predicted cost savings in phase II, utilities and their regulators will need to make adjustments to their current practices.

Other national and regional market-based environmental control programs are also being used or considered. California (the South Coast Air Quality Management District) has used an emissions offset program for volatile organic compounds for over ten years and, more recently, has been expanded to other pollutants.[3] Also, eight states in the northeast have proposed a multistate trading system[4] and a trading system is being considered for at least two urban areas (Chicago and Houston-Galveston). National and even global carbon dioxide trading are being considered. Since electric utilities either are or will play a significant role in all of the programs, it is important to examine the record so far and consider possible improvements.

Benefits of a Trading System

The way an allowance trading program, such as Title IV's, work *in theory* is quite simple. Affected sources compare their SO_2 control costs with the market price of allowances. If the price is greater than their cost, they would take measures to reduce their emissions, perhaps overcontrolling emissions (that is, controlling beyond their requirement) to sell to others. They will continue to control or overcontrol to the point where their marginal cost of control is equal to the price of allowances. If the price of allowances is below their control costs, then the source would purchase allowances from others. A market-based approach such as the allowance program recognizes and utilizes the fact that affected sources have different control costs. Control costs are, therefore, allocated to the lowest cost sources, while relatively higher cost sources purchase allowances.

Thus far, the SO_2 trading program has produced notable cost savings from what would have occurred with a command-and-control environmental program with the same level of SO_2 reduction.[5] These savings have largely been realized through *intra*utility trading (that is, utilities transferring allowance within their own system) and from the effect of competition between compliance options. The benefits of intra-utility trading can be explained with the following example. A utility builds a scrubber on one unit at a phase-I-affected plant. This results in that unit being overcontrolled and, as a result, there are excess allowances which can be transferred to other units on the system. Under a command-and-control requirement, these other units may also have to be scrubbed. Now, under the CAAA allowance trading program, the utility is able to choose the unit or plant with the lowest SO_2 control cost. Another source of savings comes from the fact that the utility has more flexibility in choosing the option for compliance. Thus, the utility can choose from scrubbing, fuel switching, reducing utilization of affected units, repowering a unit or plant, and so on. The result is not only competition among options, but also competition between options. For this reason, scrubber costs and low-sulfur coal prices have been lower than expected.

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* The views and opinions of the author do not necessarily state or reflect the views, opinions, or policies of NRRI, the National Association of Regulatory Utility Commissioners (NARUC), or funding commissions.

However there is a third and substantial source of cost savings -- trading between utilities or *inter*utility trading. A study conducted for the Electric Power Research Institute (EPRI) estimated the phase-II savings from only intrautility trading at $1.7 billion per year.[6] This study estimated also that an additional $1.2 billion in savings is available from "perfect" interutility trading (all utilities making optimal decisions). To date, as will be shown, the number of trades indicate that this option in particular has not been exercised much by utilities.

Emissions Trading in Practice

The above simplified explanation of how the trading system works assumes that utilities will act as a competitive firm would; that is, minimize their compliance cost by using the allowance market to determine their level of emission control and allowance purchases and sales. However, since utilities are regulated, their actions will be influenced by the treatment compliance costs and allowances receive from federal and state regulators.[7]

It appears that utilities in fact prefer what can be described as a self-sufficient strategies, preferring options that do not require purchasing allowances. This includes switching fuels, scrubbing, and transferring allowance within their own system. As a result, utilities are incurring much higher control costs than what the allowance market could offer. Why this is occurring will be discussed after a review of utility compliance decisions, the allowance market, and regulatory actions.

Utility Phase-I Compliance Decisions

Phase-I compliance decisions have been made and in many cases approved by the appropriate state commission. By far, the preferred options are fuel switching or blending. Of 109 phase-I-affected plants reported in an EPRI survey[8] (out of 110 plants listed in Title IV of the CAAA), sixty-four are switching or blending fuel (59 percent). Flue Gas Desulfurization (FGD or scrubbers) are next at eighteen plants (almost 17 percent). Six plants have switched or plan to switch to natural gas or oil and four have retired or plan to be retired for compliance. Compliance decisions by plant are summarized in table 1.

Table 1
Utility Phase I Compliance Actions by Plant

Compliance Action	**Number of Plants**
Coal switching or blending	64
No action[1]	21
Flue Gas Desulfurization (FGD)[2]	18
Switch to natural gas or oil	6
Retired or retiring	4
Purchase allowances[3]	3
Total plants[4]	109 [5]

Source: EPRI, *Integrated Analysis of Fuel, Technology and Emission Allowance Markets*, Appendix B, Table B-10.

[1] Compliance covered by other plant actions or already in compliance due to earlier action(s).

[2] Four plants are both coal switching and building FGD facilities.

[3] Also coal blending at these plants.

[4] Plants identified in EPRI survey. Other plants many also be affected phase I units as substitution units.

[5] Column does not sum to 109 because of multiple options being chosen at some plants.

The twenty-one plants that plan no action are either already in compliance (often as a result of an earlier state environmental requirement) or plan to shift allowances from a plant or plants that will overcomply within the utility's own system. Only three plants -- all part of the same utility system (Illinois Power Company) -- are meeting compliance primarily by acquiring allowances.[9] Other utilities are using purchased allowances to supplement what are mostly fuel-switching or blending strategies.

Actual phase-I compliance costs are difficult to come by. Often these numbers are not reported in compliance plan filings or are presented in a manner that makes it difficult to determine whether the numbers are average or marginal cost. Estimated regional cost figures are available, however, from the EPRI study.[10] EPRI did not collect actual compliance cost figures for their analysis, but used a simulation of individual plant and system costs for a given compliance action combined with known phase-I compliance choices. These simulated cost figures are presented in table 2.

Table 2
Estimated Phase I Incurred Average and Marginal Emission Reduction Costs for Compliance Choices in Relevant NERC Regions (1992 dollars per ton)

NERC Region[1]	Average Cost[2]	Marginal Cost[3]
NPCC	700	932
MAAC	439	767
ECAR	313	1,147
MAIN	118	395
MAPP	184	332
SERC	270	541
SPP	184	377
U.S.	284	1,147

Source: EPRI, *Integrated Analysis of Fuel, Technology, and Emission Allowance Markets*, Appendix C, Table C-1.

[1] Northeast Power Coordinating Council (NPCC), Mid-Atlantic Area Council (MAAC), East Central Area Reliability Coordination Agreement (ECAR), Mid-American Interconnected Network, (MAIN), Mid-Continent Area Power Pool (MAPP) Southeastern Electric Reliability Council (SERC), and Southwest Power Pool (SPP). Texas (ERCOT) and western states (WSCC) are not included since they have no phase-I-affected units.

[2] Includes the cost of banking allowances for use in phase II.

[3] Incurred marginal cost for the most expensive phase I compliance option selected by a utility in the region.

The results show a wide variance in compliance costs across regions. Average phase-I reduction costs (1992 dollars per ton) are the lowest[11] in the MAIN[12] region at $118 and highest in the NPCC[13] region at $700. Average reduction costs, however, can be misleading, particularly when such large geographic areas with many utilities are included in the calculation. Marginal costs can provide a better indication of how well the allowance program is working when compared with the allowance market price. Marginal costs (the highest regional marginal costs for selected phase-I options) are lowest in the MAPP[14] region at $332 and highest in the ECAR[15] region at $1,147. This compares with an allowance price of $175 to $200 for phase I allowances in more recent trades.[16] The ECAR regional marginal compliance cost, therefore, is more than six times the current going rate of allowances. No region had a marginal cost at or below the current allowance price. (Also, note that four out of the seven regions had *average* reduction costs greater than allowance prices.)

These regional marginal costs can also be misleading since they reflect a single unit within the specific region that may not be representative of the entire region.[17] In a more disaggregated form, Coggins and Swinton[18] estimated an average of the marginal costs of SO_2 control for Wisconsin utilities at almost $300 per ton[19] (Wisconsin utilities have been both buyers and sellers of allowances). These results suggest that, at the very least, some opportunities to purchase allowances have not been taken. Less aggregated data (plant level, for example) would better indicate the extent to which these opportunities are being missed and higher-than-necessary control costs incurred.

The Allowance Market

Most allowances traded to date have been through private transactions between buyers and sellers and, in some cases, with a broker or intermediary facilitating the transactions. As of July 1994, the total volume of private trades in these transactions is about 1.2 million allowances in approximately 30 transactions (of various vintages).[20] The first allowance transactions occurred in May of 1992. Since there will be approximately 27.5 million allowances in all five years of phase I, this represents about 4 percent of all phase I allowances. One utility, Illinois Power Company (IP), accounted for over 38 percent of the total volume traded. The two largest participants (by volume of allowances purchased), IP at 462,000 and Carolina Power & Light (CP&L) at 300,000,[21] account for over 63 percent of the trades. When these two utilities are excluded, the volume drops to 438,000 allowances or about one-and-one-half percent of the total phase-I allocation. The allowance market, therefore, can be characterized as a "thin" market at this time.

This represents only publicly announced transactions. There are some indications that other transactions have occurred but were kept confidential. Also, at this time, some believe other, perhaps many, transactions are "in the works." However, these claims are supposition and cannot be verified at this time, nor can it be determined how many or what volume of allowances this may represent. In most cases the price is kept confidential; as a result, there is price information for only six of the transactions. As noted, from this limited information, the more recent reported price information put the price of allowances in the $175 to $200 range.

The first two EPA auctions were held in March of 1993 and 1994 respectively (both were conducted by the Chicago Board of Trade). In the first two spot auctions, only eight and three investor-owned utilities (IOUs) were successful bidders in 1993 and 1994 respectively. These IOUs purchased almost 93 and 26 percent of all allowances sold in the spot auctions, respectively. In the three 1993 and 1994 advance auctions, only four IOUs were successful bidders in all three. Two utilities, CP&L and Duke Power Company, purchased over 97 percent of the total number of allowances sold in the 1993 advance auction (year 2000 allowances). In the 1994 advance auctions, investor-owned utilities purchased over fifteen percent and less than nine percent of the year 2000 and 2001 allowances sold respectively.

The relative small number of utilities involved in the auctions is surprising given that about 40 investor-owned electric utilities are affected in phase I and nearly all utilities are affected in phase II (about 250 companies). How many utilities submitted bids but were unsuccessful is not publicly disclosed.[22] However, given that the clearing price is substantially below utility costs indicate that many utilities have not been using this opportunity either.

The price in the auctions has been lower than the price in the private market. In general, this reflects the caution used by participants when selling their own allowances and using a "bargain hunting" manner when bidding. Utilities may believe that they have "more to lose" from paying too high a price than too low a price. Moreover, since many utilities are taking a self-sufficient compliance approach, they may perceive that there is little risk in not acquiring allowances.

Summary of Regulatory Action[23]

In the nearly four years since the CAAA was passed, state commissions and the Federal Energy Regulatory Commission (FERC) have begun to form regulatory policies or react to specific utility actions. To date, state commission actions have mostly been in reaction to utility activity. For example, the most common response by state public utility commissions has been to review and, in some cases, approve utility compliance plans.[24] Utilities have submitted their compliance plans for approval or review and, after review and perhaps some modification, most commissions with phase-I utilities have responded. Often this review process has been part of an integrated-resource or least-cost planning (IRP) process. Some utilities with relatively sizable compliance costs have submitted a separate plan that considers proposed compliance actions only.

Several state legislatures have enacted laws that require their public utility commission to consider utility compliance plans[25] and act on their disposition. Sometimes the commissions are restricted when the legislation is designed to encourage continued in-state coal use.

Some commissions have issued rules or orders after a utility has been involved in an allowance transaction or has requested approval to enter a transaction (for example, Connecticut, Illinois, and Wisconsin). Because allowance market activity has been limited to a few utilities, there are currently only a few responses to examine. However, these actions may be an indication of the type of actions that other state commissions will take when transactions occur in their states by their jurisdictional utilities.

A few state commissions (Georgia, Iowa, Ohio, and Pennsylvania) have issued general guidelines on the ratemaking and/or accounting treatment of allowances and compliance costs. The Ohio and Wisconsin commissions have indicated that they are willing to consider incentive ratemaking proposals from their utilities. Connecticut did allow a utility to retain a portion (15 percent) of the revenue from a sale of allowances. Only one state, New Jersey, has discouraged its utilities from acquiring allowances.

Thus far, only one commission has adopted a review and ratemaking procedure that establishes a link between the market price of allowances and compliance costs. The Georgia Public Service Commission issued an order[26] that requires its utilities to monitor the allowance market and purchase allowances when the price is below their compliance costs or justify why they are not doing so. This order, however, only applies to future compliance options.

From the actions so far, several preliminary conclusions can be drawn concerning rate treatment of compliance costs and allowances. First, there is a distinct preference for automatic passthrough of either compliance costs, allowance costs specifically, and/or gains and losses on allowance sales. This is done either through a fuel-adjustment-type mechanism or a compliance surcharge. Gains on the sale of allowances in most cases flow through to ratepayers. Second, several states have chosen to use methods first proposed by the FERC accounting rule as the basis for determining ratemaking treatment--in particular, the use of historical cost basis of allowances and the weighted-average inventory method.

Third, states with utilities that sell allowances (out of state in particular) have been more careful in reviewing transactions than states that have purchasing utilities.[27] Although, as noted, due to the limited trading activity to date, there are only a limited number of commission reactions to examine.

Finally, with respect to the review process, compliance costs and allowance transactions have been dealt with on a case-by-case basis. All states have, and are likely to continue to review, and in some cases approve, compliance plans on a utility-by-utility basis and allowance transactions on a transaction-by-transaction basis. These include stand-alone compliance plans and plans that are part of an IRP process. This process takes a great deal of time and effort by all parties involved: the commission, utility, and other interested parties. They are required to file detailed documentation, present testimony, and respond to requests for further information. For compliance plans, this process has taken over one year in many cases. Allowance transactions (particularly sales of allowances) have also been subject to considerable scrutiny by state commissions.

The biggest single actor involved in the economic regulation of compliance costs and allowances is FERC. FERC issued a final rule[28] in March of 1993 on the accounting treatment of allowances. The main features of the accounting treatment of allowances are an historical cost valuation of allowances, a weighted average cost inventory method, and a new account (Account 509) for expensing allowances. The FERC also decided to use fair market value in the valuation of allowances traded between affiliates.

The rule states clearly that it is intended to be "rate neutral" and "is not intended to promote or discourage particular CAAA compliance strategies or to prescribe the ratemaking treatment for allowances."[29] To date, the FERC has not indicated what its wholesale ratemaking treatment of allowances and compliance costs will be and has not taken any other formal action.[30]

Is there a Problem with the SO_2 Trading System?

In theory, it is expected that the price of allowances should reflect the marginal cost of the last tons of SO_2 removed. In reality, of course, perfection should not be expected since other intervening considerations will, in effect, prevent some economic trading decisions from being made. As noted, local politics has played a significant role in determining which compliance options are considered and adopted by utilities. Coal miners (in some cases, with the help of electric utilities) in many phase-I states were able to persuade legislators to pass legislation that favored the continued use of in-state coal (discussed below).

Of course it could simply be accepted that there will only be one or two dozen trades a year and that the low price reflects their value to electric suppliers. As noted, in the ideal case, the market price of allowances should reflect the marginal cost of SO_2 control of all producers. Or stated differently, no utility should be incurring a higher marginal control cost for SO_2 reduction than the going price of allowances. Currently, this is clearly not the case. Again, perfection should not be expected, but the fact that allowances are selling for less than $200 and some utilities are incurring compliance costs several times this amount, suggests that there is a problem.

The evidence suggests, therefore, that the full benefits of the trading program are not currently being realized. The question then is: Why, at these relatively low allowance prices (compared with incurred SO_2 reduction costs), has there been a low level of utility participation in the market to date?

Reasons for Low Level of Utility Market Activity

Several reasons have been given for the low level of allowance market activity. One possible explanation is that there is an inherent reluctance by utilities to attempt a novel and untried compliance approach, such as trading allowances. It is common in regulatory discussions to refer to utilities as "risk averse" and prone to take least-risk rather that least-cost approaches to problems.[31] While this may or may not be the case, there are several other factors that could contribute to utilities being reluctant to trade allowances and preferring instead what they perceive as a lower-risk strategy. There are at least five of these other factors that could be causing this low level of activity in the allowance market and utility reluctance to participate in it.

First, a number of states, including states with substantial phase-I compliance requirements,[32] passed legislation that was designed to encourage their utilities to continue to use local coal. This was done in several ways, including preapproval provisions for scrubbers, tax credits for in-state coal, automatic passthrough of costs, or mandate of a compliance action. These actions have had the effect of limiting the utility's compliance options or biasing the utility's decision toward self-sufficiency. Interestingly, none of these legislative actions referred to allowance purchases as an option, which would, in many cases, allow the continued use of local coal.[33]

A second possible reason for the lack of market activity was the negative press the first few trades received. News stories in *The New York Times*, *The Wall Street Journal*, Associated Press, and local papers often characterized the trades as the selling or buying of the "right to pollute." While there is an element of truth in this portrayal, it left the impression that the trades were conducted at the expense of the environment. These news stories rarely mentioned, for example, the ten-million-ton annual reduction in SO_2 emissions mandated by Title IV or that the Title I requirements (the National Ambient Air Quality Standards) take precedence over the number of allowances held. Utilities, fearing negative publicity, may be reluctant to trade allowances in such an emotionally charged atmosphere.

A third and often-cited reason is the federal EPA rulemaking uncertainty, particularly the allowance tracking system (ATS) and substitution rule change.[34] However, while the substitution rule change may prevent or stop some arrangements, it is difficult to conclude that it had a significant impact on the trading of allowances. Also, EPA now has the ATS operating. At worst, these were only a minor deterrents to trading.

A fourth possibility is the tax treatment of allowances. The Internal Revenue Service (IRS) has decided to use the historical cost basis of the allowances for tax purposes.[35] Some argue that this will make utilities reluctant to sell allowances since almost one-third of the revenue from the sale will be taxed. This is likely to have an impact on the sellers of allowances, who will consider the after-tax consequences of their decisions (probably requiring a higher selling price). Buyers, however, are unaffected by the IRS ruling since a tax event only occurs when allowances are sold. To date, the allowance market's problem has not been too few sellers, but too few buyers. That is, as noted, utilities are forgoing economic trading opportunities and incurring marginal costs significantly above allowance prices. Utilities that have made the decision to purchase allowances have not faced insurmountable difficulties to do so. Therefore, while the IRS ruling will have an impact on selling decisions and will likely affect the price of allowances, it is unlikely that it is a major factor contributing to the low level of market activity to date.

The fifth and possibly biggest single factor influencing the allowance market is the procedures that public utility commissions and FERC have chosen to deal with the allowance system. As noted, regulation can distort the incentives utilities receive. Commission action to date has largely been reactive, responding mostly to utility compliance plans. With few exceptions, they have not actively encouraged their jurisdictional utilities to factor allowances into their decisionmaking process.

These procedures that have been adopted so far, as outlined above, do not encourage utilities to use the market in an appropriate manner. Automatic passthrough of costs discourages utilities from seeking the lowest cost alternative. Preapproval of compliance plans, a common feature among heavily affected phase-I states and often mandated by the state legislator, locks a utility in to a particular compliance strategy. As noted, utilities have had to expend a considerable amount of time, effort, and as a consequence, dollars to gain this approval from the commissions. Because this process is time consuming and inflexible, it may be particularly ill-suited for encouraging utilities to respond to a changing allowance market. As has been seen, when the original allowance price assumptions changed, utilities have been unwilling to go to the trouble and expense again to change their strategy and have it approved. It has been known since mid-1992 that allowance prices would be considerably below what was expected when the Clean Air Act was passed. Yet, as noted, only one phase-I utility took advantage of the opportunity. Other utilities with compliance plans that assumed a much higher allowance price continued with their original strategy. The result is the inverted market seen today -- utilities incurring control costs several times the current allowance market price. Some utilities are undoubtedly selling allowances for less than it cost them to produce them.

For utilities that have relatively high control costs and compliance requirements, these traditional forms of regulation do not encourage a utility to minimize its compliance cost, including purchasing allowances when it is cost-effective. A utility in this situation is more likely to favor a self-sufficient compliance strategy, since it presents fewer market risks and their costs are likely to be passed through to ratepayers. For utilities that have low marginal control costs and emission reduction requirements, that is, utilities that have an opportunity to cost-effectively sell allowances, there is little incentive to incur the risk this type of strategy would entail. This is because the utility may fear that it would realize little or none of the benefits and that the additional costs may not be recoverable.

There are alternative regulatory procedures to these traditional approaches that do make a link between costs and the allowance market and may be more compatible with the allowance system.[36] These methods can mimic the incentives that a non-regulated firm would receive and encourage utilities to use the allowance market more appropriately. To date such procedures have not been adopted by most states. As mentioned, Georgia is the only state that has adopted a review procedure that, in the future, will make this link.

Conclusions

An examination of utility compliance plans reveals that (with one notable exception) utilities have chosen self-sufficient compliance strategies; that is, they have chosen compliance options that lead to their own system compliance and are not utilizing the allowance market to choose compliance options or take advantage of trading opportunities. Partial benefits (that is, cost savings that would not have occurred with command-and-control) have been achieved from utilities trading within their own systems. However, phase-I-affected utilities are incurring much higher marginal control costs than necessary (up to six times the current market price in one region). It is reasonable, therefore, to assume that the full benefits of the trading system are not yet being realized.

If the current situation continues along the same pattern, then there may be very little interutility trading in phase II as has been seen so far with phase I compliance. If this is the case, then the unrealized cost savings, using the EPRI estimates, would be between $600 million to $1.2 billion per year[37] (1992 dollars). It is unlikely, of course, that "perfect" trading would ever occur, even in a competitive industry. However, a conservative estimate of $0.5 billion to $1 billion per year in cost savings is, even for the electric industry, a considerable sum.[38] The actual savings may be greater since these estimates do not take into account the increase in efficiency by the utility in developing and implementing a compliance strategy that would be likely under an incentive regulatory approach.[39]

As the electric utility industry moves toward a more competitive market structure, utilities that have taken advantage of the allowance trading program's opportunities will find themselves in a better position than those that did not. Competition may ultimately be the determining factor that leads the SO_2 allowance trading program's and other emission trading programs' to a more complete success.

Notes

1. For an overview of trading system properties and cost saving potential see W. David Montgomery, "Markets in Licenses and Efficient Pollution Control Programs," *Journal of Economic Theory* (1972): 395-418; T.H. Tietenberg, *Emissions Trading: An Exercise in Reforming Pollution Policy* (Washington, D.C.: Resources for the Future, Inc., 1985); and Robert W. Hahn and Gordon L. Hester, "Where Did All the Markets Go? An Analysis of EPA's Emissions Trading Program," *Yale Journal on Regulation* 6, no. 1 (Winter 1989).

2. Paul R. Portney, "Policy Watch: Economics and the Clean Air Act," *Journal of Economic Perspectives* 4, no. 4 (1990): 173-81 and Electric Power Research Institute, *Integrated Analysis of Fuel, Technology and Emission Allowance Markets: Electric Utility Responses to the Clean Air Act Amendments of 1990*, EPRI TR 102510 (Palo Alto, CA: Electric Power Research Institute, November 1993).

3. Hahn and Hester, "Where Did All the Markets Go?" South Coast Air Quality Management District, "Regional Clean Air Incentives Market: Summary Recommendations" (Diamond Bar, CA: South Coast Air Quality Management District, Spring 1992).

4. Northeast States for Coordinated Air Use Management (NESCAUM), "Development of a Market-Based Emissions Cap System for NO_x in the NESCAUM Region: Project Summary for Section 105 State Air Grant Funds for Market-Based Initiatives" (Boston, MA: NESCAUM, 1992).

5. The magnitude of the cost savings depend, of course, on the type of command-and-control environmental regulation that the trading program is compared to. See Tietenberg, *Emissions Trading*.

6. Electric Power Research Institute, *Integrated Analysis of Fuel, Technology and Emission Allowance Markets: Electric Utility Responses to the Clean Air Act Amendments of 1990*, EPRI TR 102510 (Palo Alto, CA: Electric Power Research Institute, November 1993), p. 1-18.

7. For an analysis of how regulation affects utility compliance decisionmaking, see Kenneth Rose, Alan S. Taylor, and Mohammad Harunuzzaman, *Regulatory Treatment of Electric Utility Clean Air Act Compliance Strategies, Costs, and Emission Allowances* (Columbus, OH: The National Regulatory Research Institute, December 1993).

8. Electric Power Research Institute, *Integrated Analysis of Fuel, Technology and Emission Allowance Markets*, Appendix B.

9. Illinois Power Company's system compliance strategy has three main components: (1) reduced utilization of phase-I-affected units (through emissions dispatching), (2) substitution of a unit as a phase-I-affected unit, and (3) the acquisition of allowances from other sources by designating transfer and substitution units with other utilities and purchasing allowances from other sources.

10. Electric Power Research Institute, *Integrated Analysis of Fuel, Technology and Emission Allowance Markets*, Appendix C.

11. Excluding Texas (ERCOT--Electric Reliability Council of Texas) and western states (WSCC--Western Systems Coordinating Council) that do not have phase I units.

12. MAIN (Mid-America Interconnected Network) is a North American Electric Reliability Council (NERC) region consisting of Illinois, most of Wisconsin, eastern Missouri, and the upper peninsula of Michigan.

13. NPCC (Northeast Power Coordinating Council) includes all of the New England states and most of New York state.

14. MAPP (Mid-Continent Area Power Pool) includes Iowa, western Wisconsin, Minnesota, North Dakota, (most of) South Dakota, Nebraska, and extreme eastern Montana.

15. ECAR (East Central Area Reliability Coordination Agreement) includes most of Michigan and Kentucky, Indiana, Ohio, West Virginia, and parts of western Virginia, Maryland, and Pennsylvania.

16. See Table 2-3, pp. 18-19 in Rose, Taylor, and Harunuzzaman, *Regulatory Treatment of Electric Utility Clean Air Act Compliance Strategies, Costs, and Emission Allowances.*

17. Also, these marginal costs are the incurred marginal costs for meeting phase I compliance and do not reflect the effect of the utility redispatching its system.

18. Jay S. Coggins and John R. Swinton, "The Price of Pollution: A Dual Approach to Valuing SO_2 Allowances," unpublished paper, June 1994.

19. It should be noted that Wisconsin utilities were required to comply with state-mandated SO_2 emission reductions. This estimate reflects Wisconsin utilities' marginal cost of compliance with the state law.

20. Barry Solomon, U.S. Environmental Protection Agency, Personal Communication, July 11, 1994.

21. The 300,000 allowances result from counting the 150,000 purchased by Centre Financial from Henderson MP&L and then sold to CP&L as one transaction. The 150,000 phase I allowances purchased by CP&L represent the second largest known transaction, after the IP arrangements. It is interesting to note that CP&L is a utility with only phase-II-affected plants. Nevertheless, CP&L has been acquiring phase I allowances for its compliance in phase II.

22. Also not publicly disclosed is the identity of a large buyer of allowances in 1994 auctions, Allowance Holdings Corporation. This bidder purchased 25.9, 78.7, and 89.3 percent of the total allowances in the 1995, 2000, and 2001 auctions, respectively.

23. Public utility commission and legislative activities are summarized in Chapter 2 and Appendix B of Rose, Taylor, and Harunuzzaman, *Regulatory Treatment of Electric Utility Clean Air Act Compliance Strategies, Costs, and Emission Allowances.*

24. The term "compliance plan" is used here to refer to a plan that is submitted to a commission for review or approval. This may or may not be the same plan submitted to the federal EPA as required under the CAAA.

25. For example, Florida, Illinois, Indiana, Kentucky, Ohio, and Pennsylvania.

26. Order, In Re Notice of Inquiry, Review of Trading and Usage of, and the Accounting Treatment for, Emissions Allowances by Electrical Utilities in Georgia, Docket No. 4152-U (Ga PSC, April 5, 1994), p. 12.

27. See, for example, the description of what Connecticut and Wisconsin, both selling states, are doing compared to Illinois and Ohio, which are purchasing states, in Rose, Taylor, and Harunuzzaman, *Regulatory Treatment of Electric Utility Clean Air Act Compliance Strategies, Costs, and Emission Allowances.*

28. Federal Energy Regulatory Commission, "Revisions to Uniform System of Accounts to Account for Allowances under the Clean Air Act Amendments of 1990 and Regulatory-Created Assets and Liabilities and to Form Nos. 1, 1-F, 2 and 2-A,"Order No. 552, 18 CFR Parts 101 and 201, issued March 31, 1993.

29. Ibid., 4.

30. These issues are also discussed in Rose et al., *Public Utility Commission Implementation of the Clean Air Act's Allowance Trading Program*; and Kenneth Rose and Robert E. Burns, eds., *Regulatory Policy Issues and the Clean Air Act* (Columbus, OH: The National Regulatory Research Institute, 1993).

31. Utilities have argued that due to the uncertainty in the allowance market they are forced to incur these higher control cost in order to bank allowances for their future use. However, there is no practical difference between a purchased allowance and one generated by a utility. A utility can build a reserve of allowances, as some are doing, by purchasing allowances. Building the capability internally should only be done when it is cost-effective to do so.

32. Including, Illinois, Ohio, Pennsylvania, Indiana, and Kentucky. See Rose, Taylor, Harunuzzaman, *Regulatory Treatment of Electric Utility Clean Air Act Compliance Strategies, Costs, and Emission Allowances*, Appendix B.

33. One utility, Illinois Power, that was subject to a state legislative mandate, discontinued construction of a scrubber and deferred its decision to continue it until phase II. The Illinois law was subsequently overturned by Alliance for Clean Coal v. Ellen C. Craig et al., No. 93-C-4391, (N.D. Ill., December 15, 1993).

34. The substitution provision of Title IV allows phase-I-affected utilities to designate other units as substitutes that then become subject to phase I emission requirements.

35. Internal Revenue Service, Revenue Ruling 92-16 and Revenue Procedure 92-91. Tax implications are discussed in K. Rose et al., *Public Utility Commission Implementation of the Clean Air Act's Allowance Trading Program*, (Columbus, OH: The National Regulatory Research Institute, May 1992), 95-101.

36. Traditional and incentive regulatory methods are discussed in detail in Rose, Taylor, and Harunuzzaman, *Regulatory Treatment of Electric Utility Clean Air Act Compliance Strategies, Costs, and Emission Allowances.*

37. The $600 million is the difference between the intrautility-trading-only scenario and the "constrained" interutility trading in the EPRI study. The $1.2 billion is the difference between the intrautility trading only and "perfect" interutility trading.

38. For comparison, consider that utility revenues from "other" sources, primarily wholesale power sales revenues, in 1991 were about $8.5 billion. The higher estimate of the cost savings is 14 percent of these other revenue sources. The "other revenue" figure is taken from Edison Electric Institute, *Statistical Yearbook 1991*, No. 59 (Washington, D.C.: Edison Electric Institute, October 1992), Table 57, 64.

39. That is, increasing X-efficiency of the utility. For example, encouraging the utility to pursue and implement compliance options more efficiently in terms of cost control and management.

Mr. SHARP. Thank you very much, Mr. Rose.

Mr. Walsh, be happy to hear from you.

STATEMENT OF MICHAEL J. WALSH

Mr. WALSH. Thank you for inviting the Chicago Board of Trade to participate in this session, Mr. Chairman.

I have been the lead Chicago Board of Trade representative working with this program. I am also the liaison between the board of trade and the EPA and administration of the annual auctions.

What I would like to do this morning is summarize our perceptions of the development of the market today, the specialty—the annual auctions, and to briefly address some of the barriers to further success of the market and suggest some possible solutions to those barriers.

The Chicago Board of Trade is the world's busiest commodity futures exchange. We provide a low-cost mechanism for people to buy and sell, to transfer risk. And in trading in commodity and financial futures, the markets generate public price information that is used as a reference worldwide in the agriculture, finance and industrial sectors.

Our desire to participate in the allowance trading program reflects our opinion that this is a major breakthrough in the application of market-based principles to environmental problems. And we think and hope that it does lead to a number of successors with similar applications of incentive and market-based principles.

We think markets and incentives can bring out the best in people, can stimulate ingenuity, and it is clear to us that this market will succeed in lowering costs to industry and to consumers. And in doing so, it makes more environmental protection more affordable, an inherently desirable result.

The Acid Rain Trading Program has clearly become the reference for a number of market-based trading programs, from local programs to global programs. The Clean Air Act Amendments introduced and provided for an annual auction to be administered by the EPA in an attempt to assist the market, to provide some price information and to assure supplies of allowances. The Act also allowed EPA to delegate the administrative functions if they saw that as appropriate.

Following a competitive application process, the Chicago Board of Trade was selected by EPA to administer the annual auctions. We are not compensated for conducting those functions and of course EPA retains all policy authority. In the development of the auction rules, however, we did make some recommendations and suggestions based on our experience in numerous commodity and financial markets.

The law provided that in the first 3 years, 1993, 1994 and 1995, 50,000 allowances, spot allowances, if you will, usable in 1995 or later, be auctioned. And in addition, EPA was to hold an advance auction of 100,000 allowances usable 7 years in the future. So the first auction in 1993, the first advance auction, was keyed toward stimulating interest in providing allowances for the first year of Phase II, which is the year 2000.

The law also directed EPA to auction off any allowances from the 25,000 allowance direct-sale allotment should those go unsold, as they have. The rules required a price-discriminating auction whereby bids are ranked from highest to lowest. EPA's allowance reserve is sold first, and then the utilities who voluntarily offered allowances for sale get to sell theirs. Between 1993 and 1994, I think the differences in the results of the auctions indicate a substantial improvement and a learning process in the market. I think there is some very positive results from those auctions.

In 1994, we saw more bids, we saw more strategic bidding, where bidders staggered their bids with a recognition that it may be attractive to try to work within the rules to suit their outcome best. Importantly, in 1994 we saw a much tighter cluster of bids, where people are recognizing and getting a better feel where the market is. We even saw some utilities offer to sell, if the price was high enough, and buy, if the price was low enough. Amazing as that may sound, that is an important step forward. People are starting to recognize that these are assets that they in fact will need for the foreseeable future.

In 1994, we saw substantial increase in the number of bids, especially in the advance auction. We had 171 bids in 1993, and 214 bids in 1994, and the spot in advance auctions. Additionally, we had 70 bids for the 25,000 direct-sale allowances. Both years, we saw substantial oversubscription to the auction. In fact, the quantity of bidding increased by 75 percent in the advance auction in 1994 over 1993 to 489,000 allowances.

Much more interest is being paid to Phase II of the program. The average spot allowance prices rose in 1993 to 1994 from $156 to $159. And the advance auctions we saw an average price increase from $136 to $149. The 6-year advance auction saw an average price of $148.

We feel the auctions were very successful, but there is some substantial negative information coming from the results. In both years, we saw only, roughly, 20 utilities participate and only about a dozen participate in a very significant way. Given that the auctions were very simple, low-cost, relatively low-risk means to use the market, that relative lack of participation tells us that some of the utilities are just not catching on, that these allowances are something they are absolutely going to need, that they represent valuable assets, and that the EPA auctions offered a way to perhaps get some allowances at a very low cost.

Again, we are convinced the auctions have been successful, but there is some information there that is not particularly positive. We did see some positive unintended results, however.

Because the proceeds from the auctions, roughly, $27 million this past year, are distributed pro rata to the utilities from whom they are withheld, the commissions had to grapple with the concept of what do we do with this money, what do we do with the allowance market generally. And some of the regulators hadn't fully addressed that yet.

In addition, it simply raised—the auctions raised the awareness of the market and did lead to some fairly widespread coverage of the emission trading program, both here and abroad. There has been some concern raised as to the effect of having a discriminating price auction.

While we think that people understand that there is a potential, conceivably potential bias in the results of the auctions and people adjust the behavior in understanding that, it may be sensible to consider additional modifications to the auction style. And we stand ready to work with EPA should they wish to consider those changes.

Trading outside the auctions also reflects a learning process. We are seeing a substantial number of conversations and negotiations in a bilateral sense among utilities. And based on the information we get from the industry, many utilities feel that the brokers that have been involved and the board of trade's involvement has been very positive in helping educate people and, in some cases, making deals happen.

To summarize our feelings on the success of the market, it is clear to us that the flexibility component is working quite well. Many utilities are considering at a minimum all the technical compliance options, and that is a good thing.

However, there are strong reasons to believe, although we can't prove it, that the innovation component of the market is not necessarily working as well as it could in theory. And I think the dampening of incentives that the regulatory environment induces, reduces the incentive to go ahead and find out the way to build a better mousetrap, the way to come up with a more effective and lower-cost compliance alternative.

The trading component is working moderately well. But again, we feel that only the most obvious trades are being undertaken, that the strategic and finer trades are not being undertaken in large part due to the reduced incentives, due to the regulatory environment. We recognized early on, the board of trade recognized that the primary cap to this market was either the lack of guidance from the public utility commissions or the absence of incentives in the utility world and the utility regulatory world.

The first thing we did was to go out and try to educate public utility commissions and encourage them to adopt incentive-based regulations. At a minimum, we encouraged them to adopt some regulations to remove some of the ambiguities and reduce some of the arbitrary risks involved in trading.

Regarding the future of the market, we are very bullish on its prospects. We do, however, have a real concern that the trading program will fail to realize as much of its cost-cutting potential as is possible. And at this time, we are I think of the opinion that prices do not necessarily reflect real value, in part due to the distortions introduced by the regulatory system. And as a result of that possible distortion, we are not sure that these prices that we are seeing are an accurate gauge of the real cost savings that are going to be realized.

However, over the next couple years we are going to see much more accurate market activity from the profit-driven, opt-in sector, and as we see enhanced competition in the utility generation sector, we are quite sure that this market will continue to grow and to flourish. In the long run and in terms of strategic decisions, we feel that the tax treatment where capital gains on initial allocated allowances are taxed at 100 percent, in effect, that this does introduce a substantial barrier and substantial disincentive to selling and to trading. What we are seeing in the market right now is not necessarily an indicator of the damage this tax treatment can provide.

We have been working with industry to come up with a concept, a tax proposal, that would allow the Treasury to collect the same amount of tax revenue, but to smooth out those tax collections over time in a manner that is more—that reduces the distortion the current tax rules provide. As the market continues to expand, the Chicago Board of Trade intends to expand the services it offers in terms of providing transaction mechanisms and risk-management tools.

We think that this is a market revolution. Revolutions take time to succeed. The government can help make this revolution fully realize its potential. Obviously, the educational efforts that have been undertaken by the EPA have been extremely helpful, as has the efforts of the other gentlemen on this panel. Perhaps the most important thing that government can do is to not change the rules of the game, to keep this program intact, to maintain the confidence of the players, to avoid harming or freezing up the market.

Of course, if there is absolutely mandatory need to protect the environment, changes will be warranted, and if there are changes in the program that can help improve the market, we think that they should be evaluated. But whenever possible, this law should remain intact as it is.

Let me close with a comment and echo my other panelists here, that in our experience, the EPA has done an extremely professional job and effective job in implementing the very challenging aspects of this program. It seems it is sometimes easier to impose on industry and consumers a multi-billion dollar burden per year, than it is to provide sufficient resources to the enforcement and oversight agency that is required to monitor and implement the law. So we also encourage that EPA be given sufficient resources to do their job and to help assure that the environmental and cost-savings components of this program are fully carried out.

Thank you for your time.

[The prepared statement of Michael J. Walsh follows:]

Statement of Michael J. Walsh, Senior Economist, Board of Trade, City of Chicago

Thank you for providing the Chicago Board of Trade (CBOT) this opportunity to discuss the developments to date in the sulfur dioxide emission allowance market. As the world's oldest and largest futures exchange, the CBOT has almost 150 years of experience in fostering the evolution of various types of markets, from cash grain markets to the first interest rate futures contracts in the 1970s. Now we are playing an active role in the development of market tools for protecting the environment. These experiences permit the CBOT to provide a unique perspective on the current state of development of the sulfur dioxide emission allowance market and its full potential for lowering the costs of reducing those emissions. Our experiences can also help assist in development of applications of market tools to other pressing environmental problems.

I would like to give you some background on the Chicago Board of Trade and its role in the allowance market. Next I will explain how we analyze the supply and demand conditions reflected in the first allowance auctions. I will then address the current state of market evolution as well as the barriers that have been identified as factors preventing the market from reaching its full potential.

In 1848, the Chicago Board of Trade (CBOT) was founded to provide a rational, effective and inexpensive mechanism for buying and selling physical agricultural commodities. Our simple, but effective cash grain markets started our evolution into the world's busiest futures exchange. Our marketplace serves the worlds of agriculture, industry and finance by providing instruments for managing the risk of price fluctuation. We currently sponsor trading in over forty different futures and options markets. These markets provide an efficient, reliable mechanism for buying and selling, transferring price risk, and generating price information that is disseminated around the world to provide a benchmark for market decisions. The CBOT plans to provide a centralized market for trading in emission allowances, which will generate similar benefits for those involved in this innovative market.

Based on our experience in developing and supporting a wide variety of markets, we have learned that for participants to take full advantage of trading opportunities open to them, some key conditions must be present. Among these conditions are:

1. Buyers and sellers must have an incentive to trade; market participants must perceive that an economic benefit is possible as a result of trading.

2. Participants must understand the process of trading and feel secure with the counterparties they trade with or the intermediaries they use.

3. The parties must be confident that the rules that govern the market and greatly affect value are fair and not subject to arbitrary change.

4. The financial benefits of trading must persist after the costs of regulations and taxes are taken into consideration.

These conditions are just as true in the emission allowance market as in trading in soybeans or U.S. Treasury bonds.

CBOT Sponsorship of Markets For SO_2 Emission Allowances

When Congress passed the 1990 Clean Air Act Amendments, the CBOT recognized that the emission allowance market represented an opportunity to extend the services our exchange provides so successfully in other markets. It was clear to us that Congress had passed a law that represented a revolution in environmental policy, and the Chicago Board of Trade is always eager to help lead in the evolution of new markets.

In our view, the growing use of markets to help protect the environment is part of an enormous shift worldwide to a recognition that markets are the most efficient means to improve living standards. The major shift we see in eastern Europe and China toward free market approaches represents implementation of the ideas embodied in the Chicago Board of Trade and the Chicago school of free market economics. As you may know, four of the recent winners of the Nobel prize in Economics have come from the University of Chicago. Among these winners is Professor Ronald Coase, who several decades ago first proposed that markets and trading could offer a more efficient means for solving environmental problems.

Because the market-based approach to protecting the environment lowers the price every citizen pays, this approach will not only save consumers money but will also make our economy more competitive. Lowering the price tag on protecting the environment also encourages society to purchase a larger amount of environmental protection. Congress crafted an innovative, win-win approach to protecting the environment with the sulfur dioxide emission market. Participating in such innovation is precisely what helped make the Chicago Board of Trade the world's leading futures exchange. We applaud the Congress for passing such bold and creative legislation.

Starting new markets is not easy; the CBOT has often faced many of the challenges the EPA encountered in devising rules for the allowance market. We shared the benefits of our experience with EPA as they made important decisions about market rules and design. These decisions addressed market-tuning issues such as an appropriate method for identifying allowances, procedures for handling payments in the annual allowance auctions, and other detailed issues related to commercial trading practices.

Recognizing that the new emission allowance market might need some help getting started, Congress established annual auctions for the purposes of stimulating the market, providing both a backstop source of allowances and generating price information. Congress also provided for an annual direct sale of allowances at a set price, and provided that independent power producers would have first priority in purchasing those allowances.

Congress gave EPA the option of delegating the responsibility for administering the auctions and direct sales to outside parties. EPA chose to pursue this option, and invited parties willing to conduct the auctions to apply for that responsibility. The CBOT was one of several marketplaces that applied to administer the auctions.

Following this competitive application process, in August 1992 EPA selected the CBOT to administer the annual auctions and direct sales for three years. EPA retained the right to terminate the delegation, and will review the agreement after three years. The CBOT is not compensated for administering the annual auctions. We designed the procedures used to administer the auctions and direct sales in complete conjunction with EPA. EPA maintains all policy authority, and the CBOT acts simply as its administrative agent.

In our application to EPA, the CBOT outlined a complex of services we believe must evolve to allow the allowance market to function as intended. In the short run, utility consumption of emission allowances will fluctuate due to variations in weather conditions, economic activity, and power plant outages. Over the long term, utilities face strategic challenges in determining the least-cost method for complying with the law. Among these choices are installation of pollution control equipment, consumption of lower sulfur fuels and modification of the use of various electric generating plants. These choices are expensive and especially risky due to the lengthy time lapse between decision and consequence -- a concern which can be addressed by the use of a variety of risk management vehicles. One requirement for this decision-making process, however, is clear. Utility decision-makers have a pressing, ongoing need for accurate allowance price information.

To help meet the needs of utilities, the CBOT plans to ultimately offer a central cash market for allowances. First, however, we feel the market still needs better price signals; to provide these price signals, we are evaluating the potential for periodic auctions to help further early development of the allowance cash market. These auctions would supplement, not replace, the annual EPA auctions.

Once a central, transparent cash market is solidly established, the CBOT also plans to offer futures and options markets based on emission allowances. These contracts will provide tools for managing the long-term risk inherent in the market and will generate prices indicative of future transaction values. We anticipate that emission allowance buyers and sellers will use futures and options to protect themselves from price risk, and to obtain more predictability and certainty in their purchase, sales and compliance plans. The prices generated in trading these contracts will help utilities identify the lowest cost choice for complying with the statutory emission reduction mandates. Our regulator, the Commodity Futures Trading Commission, has concluded that these contracts can fulfill a real economic need, and has approved the contracts for trading.

Since being selected to conduct the auctions, the Chicago Board of Trade has steadily worked to help build the allowance market. First, the CBOT focused its educational effort on the state public utilities commissions around the country. We recognized that utilities would not be capable of using the market to its full advantage unless their regulators understood the benefits of the market and established clear guidelines governing utility use of the market. We also undertook a major educational effort through industry and trade seminars and conferences that continues to this day. Throughout this effort we encourage the use of the EPA auctions as a reasonable first step in participating in the market.

In an effort to boost participation in the EPA auctions, the CBOT made arrangements to allow bidders to place their bids anonymously through our member firms. EPA endorsed this alternative, and we encouraged all participants to consider it. Because CBOT member firms have credit standing with the exchange, bidders who placed their bids through them had an additional short-term financing option available to them. Providing one sign of the increasing sophistication of market participants, use of this option increased in the second EPA auction compared to the first auction.

Results of the First EPA Auctions in March 1993

By law, for years 1993, 1994 and 1995 EPA was required to auction 50,000 allowances usable in 1995 (the "spot" auctions), and 100,000 allowances first usable seven years in the future (the "advance" auctions). 1995 is the first year of Phase 1 of the program, which covers 265 power plant units. The advance auctions relate to Phase 2 of the program, which, beginning in year 2000 covers over 2,200 power plant units. The allowances auctioned by EPA -- the EPA reserve -- were by law withheld from utility accounts. The EPA reserve allowances are sold in order of price, selling first to those who bid highest, and continuing down through the bids until the entire EPA reserve is fully sold. Additional allowances voluntarily offered for sale are sold after the EPA reserve is sold out.

The first EPA auction, held in March 1993, drew more bids than available allowances and provided unprecedented price information for the infant market. In addition to seeing successful bidding at attractive prices, for the first time interested parties were able to see unambiguous offer prices for a substantial number of allowances: in the spot auction 30,010 allowances were offered at $255 or less, and in the advance auction 25,815 allowances were offered for sale at $307 or less.

Appendix A presents a comparison of the results of the 1993 EPA with those of the 1994 auction. For the spot auctions (of allowances usable in 1995 or later) the number of bids fell slightly from 106 in 1993 to 103 in 1994. However, when one removes the very low bids in the 1993 spot auction, it is clear that serious bidding increased in 1994. The minimum successful bid price rose from $131 in 1993 to $150 in 1994, while the average winning bid rose from $156 to $159. Perhaps reflecting a view that the EPA auctions are not the best venue for sellers, fewer allowances were voluntarily offered for sale at near-market prices.

In the seven-year advance auction the number of bids also increased in 1994 over 1993 from 65 to 111 and total bid quantities increased dramatically from 283,406 to 489,399. The minimum successful bid price rose from $122 in 1993 to $140 in 1994, while the average winning bid rose from $136 to $149. While voluntary offers increased in 1994, most were offered at $550 each, far above market. Nevertheless, 800 voluntarily offered allowances were sold at $140, implying those sellers set offer prices at or below $140.

In order to assure that some allowances would be available for purchase regardless of market conditions, the CAAA established an annual "direct sale" of 25,000 allowances usable seven years in the future at a price of $1,500 per allowance, and that price is to be scaled up by the rate of inflation. The law gave independent power producers first priority in purchasing these allowances. Because direct sale prices are currently set at over $1,600 per allowance, to date no allowances have been sold. By law, the direct sale allowances that go unsold will be sold in the subsequent year auctions. This means the EPA reserve portion of the March 1994 auction made available an additional 25,000 allowances usable in the year 2000 or later. For this part of the 1994 auction a total of 70 bids for 110,489 allowances were submitted, with the minimum successful bid of $140 and the average winning bid at $148.

The 1994 results demonstrated that some market participants are quickly learning how to use the market to maximum benefit. Bidders were more careful to seek out the least-cost means for financing bids. Many used more sophisticated bidding strategies by staggering bids to register higher demand if auction prices were lower. As shown in Appendix B, the distribution of bids across the price range was tighter in 1994 than in 1993. This too reflects a learning process that reflects bidder's improved sense as to market price levels. To preserve their anonymity, more bidders bid through third parties, including CBOT members. Indeed, one bidder who appeared to be acting as an agent for others, Allowance Holdings Corporation, succeeded in purchasing 122,946 of the 176,200 total allowances sold. (See Appendix C for a listing of successful bidders in the 1993 and 1994 auctions).

It should be noted that the price-discriminating nature of the auctions makes it strategically sensible to bid lower than one might otherwise be willing to pay. This means the EPA auction results may understate open market prices. While criticized by some, market participants have, not surprisingly, shown a clear understanding of this potential bias. As intended by the law, utilities and others have use the auction results as indicators, not as an exclusive source of definitive price discovery. If this potential bias is perceived to be a significant impediment to the market, EPA may wish to evaluate the desirability of modifying the style of auction it employs. Economic theory suggests that a single price auction, perhaps similar to those employed in the auctions of U.S. Treasury instruments, may be a better alternative.

By law the proceeds from the auctions, a total of $21.4 million in 1993 and $26.8 million in 1994, were returned to the utilities from whom the allowances were withheld. This meant that utilities were forced to determine, in conjunction with their regulators, how revenues from the auction market would be distributed. So the auctions had a number of additional benefits beyond the immediate ones intended by Congress. They force state public utilities commissions to grapple with the issue of regulatory treatment, precisely one of the areas where further progress is needed to help make this market succeed.

One sign that utilities are not yet prepared to take full advantage of the market is the failure of many affected utilities to bid in the auctions. Every utility can benefit by having more allowances, either to use or sell. Bidding in the EPA auctions involves no direct risk and presents the possibility of buying allowances at below-market prices. Given the attractive nature of the EPA auctions, non-participation by many utilities suggests some fundamental market inhibitors are impeding the market. One fairly natural problem is the newness of the commodity; utilities may not yet know how many allowances they can sell or need to buy. But the bigger problems seem to be structural. Many state public utility commissions have still not indicated how allowance purchases or sales will be treated in ratemaking. Almost none of the regulations that have been issued provide a strong incentive to aggressively use the market to reduce compliance costs. These inhibitors prevent full attainment of the potential costs savings the market allows. Addressing them has been one main focus of the CBOT's ongoing effort to help this market succeed.

While the 1993 auctions and the early trades were widely covered by both domestic and international media, the degree of media scrutiny has declined over time. Nevertheless, the allowance trading program continues to receive extensive international coverage. While some in the media present hostile and incomplete information about the allowance market, others are effective in raising the level of awareness and understanding of the market. Some major buyers in the first auction tried to anticipate negative media coverage of the allowance trading program by explaining the cost-saving nature of their allowance purchases to local media when the auction results were announced. In one case a newspaper editorial applauded the nearby utilities and argued they had taken sensible steps to save utility ratepayers money by buying allowances in the auction. (See Appendix D for press reports on the auctions and other developments in the allowance market). However, even the helpful media coverage usually fails to report that the rules protecting local air quality remain in force, independent of the emission allowance program. The CBOT has taken every opportunity to emphasize this critical fact in our public statements.

Subsequent to the auctions, the EPA informed us that our performance in conducting and publicizing the auctions was excellent. We take pride in that recognition, and we stand ready to work with the EPA in making whatever modifications are deemed necessary to make the future auctions work even better.

What Have We Learned From Market Activities to Date?
The price data generated in the two EPA auctions provided an unprecedented amount of price information for this market, fulfilling one of the purposes Congress intended. Given the scarcity of price and quantity information prior to the auctions, the offer prices validated the idea that purchasing allowances from utilities making extraordinary emission cuts is a feasible option for complying with the law.

Such price information is also a critical component of subsequent allowance trading. That price information will aid utilities in evaluating a wide range of options for complying with the law. While the trading component of the program started slowly, the pace has recently increased. Nevertheless, it has been clear for some time that the flexibility component of the allowance system, which can account for a significant share of the overall cost savings potential, is working quite well.

We are told by affected utilities that they and their regulators are reviewing all of the options for complying with the law and are trying to select those options that are most cost-effective, consistent with the other unique constraints that most utilities face. EPA's estimates of the annual cost of complying with the law indicate that the primary goal of the market-based approach -- lowering the cost of reaching the tightened emission limits -- is succeeding. EPA estimated that the annual nationwide cost of reaching the new emission standard under an inflexible command-and-control regime would have been $5-6 billion per year. Based on the emission allowance prices observed in the open market, EPA now estimates that the cost appears to be closer to $2-3 billion per year. If these results hold up, the program will be a major success.

The flexibility in the law appears to be encouraging competition among the eligible compliance options. By letting one utility make extraordinary emission cuts to fulfill the cleanup requirements of another utility as well as its own, allowance trading in effect allows multiple emission sources to share the benefits -- and the costs -- of a single emission scrubber. This lets both the buyer and seller of emission allowances take advantage of economies of scale in emission control technology. Utilities have told us that the allowance market has encouraged them to develop innovative and low-cost emission control strategies that probably would not have been allowed under a command-and-control regulatory regime.

The U.S. Department of Energy reports that 61% of the capacity affected during Phase 1 will come into compliance primarily by switching to lower-sulfur fuels. This simple fact demonstrates industry will respond positively when given an opportunity to find less costly means for complying with the law.

While the allowance market boasts several clear successes, much evidence, from both the auctions and the open market, suggest that the conditions for market success that I outlined earlier are not yet widely available.

Why have many utilities failed to use the EPA auctions, given that they represent perhaps the most straightforward, inexpensive mechanism for attempting to buy allowances? This may reflect the fact that, in its early stages, insufficient incentives exist to participate in the market. Is subsequent trading failing to flourish because incentives are absent or for other reasons? We know there are utilities who are in a position to sell, and others who are willing to buy, but various uncertainties inherent in a new market, as well as some disincentives, may be holding them back.

Because the market is still a somewhat new and unfamiliar process, some utilities may find that their strongest incentive is to hold onto the allowances they might otherwise be able to sell. Some may feel the economic benefits are greatest by waiting until more price information and examples of trading are observed.

The second important market condition -- that participants must understand the process of trading and feel secure with the counterparties they trade with or the intermediaries they use -- is also affecting participation.

Several dozen trades have occurred, and more may have taken place that were not made public. Clearly, some participants have reached an acceptable level of understanding, and have developed confidence in their counterparties as well as any intermediaries involved in the process. However, other participants have told us they encountered difficulties regarding the creditworthiness of potential counterparties, and have not found suitable intermediaries.

Many states have still not yet issued rules governing utility participation in the allowance market. Where regulations have been issued, almost none provide a specific positive incentive to take full advantage of trades that can lower costs. Given that one of the core concepts of the market is to provide financial rewards to those who find new, lower cost methods for cutting emissions, to the extent that the regulatory process reduces the impact of these incentives, it works counter to the intent of the market program.

Some utilities also fear that their regulators will penalize them in the ratemaking process if changed market conditions make early trades look unattractive in hindsight. Also, some utilities express a fear that ratepayers will receive all the benefits of trading, while losses due to trading, however calculated, will be levied on utility shareholders.

I should note that EPA and the Federal Energy Regulatory Commission (FERC) have taken some significant positive steps to help address the need for guidance from state utility regulators. First, FERC issued modifications to the Uniform System of Accounts to provide a standard process for recording and valuing emission allowance purchases, sales, inventories and consumption. In some cases these guidelines do help clarify the regulatory treatment utilities can expect. Another helpful step has been the EPA's sponsorship of a series of policy forums to help state utility regulators better understand the allowance market and the regulatory options open to them.

Finally, for trading to grow, financial benefits of trading must persist after the costs of regulations and taxes are taken into consideration. Several utilities which are in a position to sell allowances have told us the most significant barrier holding up allowance trading is the federal tax policy. Because the Clean Air Act amendments are silent regarding tax policy for emission allowances, IRS considered the issue and devised tax rules that are likely to dampen trading, and increase the overall cost of complying with the law.

Currently, utilities that sell original-issue emission allowances -- that is, those utilities which have made extraordinary emission cuts -- are taxed at 100% capital gain on the revenues received from sales. This occurs because the allowances that were allocated to them are treated as "zero basis," an interpretation which implies the allowances allotted by law were essentially an unrestricted gift. However, utilities must make significant expenditures to cut emissions in order to be in a position to sell allowances. While these expenditures are written-off for tax purposes over many years, the revenues from selling allowances are taxed immediately.

The Acid Rain provisions of the CAA put a major cost burden on the electric utility industry to comply with new, tightened emission standards. There is no indication from Congressional deliberations that Congress intended the law also to be a new source of federal revenues. The allowances issued to utilities were part of an overall package that in fact levied massive cost increases on utilities and their ratepayers. The allowances were simply not an unencumbered gift. As it stands, a utility selling an allowance for, say, $200 faces capital gains tax on that full $200, regardless of the amount of money spent to free up the emission allowance for sale. Because the capital gains tax leaves the seller with only $132 after federal taxes, the utility may be unwilling to sell the allowances.

As a result, because some utilities will be unwilling to sell, other utilities will instead be forced to pursue other higher cost compliance options rather than taking advantage of the potential sellers' ability to cut emissions at lower cost. Obviously, the market for allowances is also hampered.

The allowance market mechanism is intended to send a positive signal: if you clean up the environment, you will get a financial reward. That incentive is at the heart of the shift from inflexible regulation to market-based regulation. Current tax policy reduces the financial reward that was to be provided to those who cut emissions the most, and who could do so at lower cost.

Because this is creating such a disincentive, the Chicago Board of Trade is currently exploring possible tax policy alternatives with the electric utility industry. Our goal is to find a policy that is fair, reasonable, and consistent with other tax regulations. It must also reduce the disincentive to trade allowances that is embodied in the current tax policy, and remove the current distortions that are absolutely counter to the spirit of the law. While the allowance program encourages utilities to compare the cost of all compliance options -- switching to cleaner fuels, installing pollution scrubbers, inducing energy efficiency, or hiring others to make extraordinary emissions cuts by buying allowances -- the current tax penalties encourage utilities to keep allowances for in-house use. This reduces the possibility of buyers using the allowance purchase option, and this means the market will not reach its full potential to cut the cost of lowering emissions.

The sulfur dioxide allowance program is being watched around the world as a model for a variety of other market-driven environmental policies. The tax treatment currently applied to the market has the potential to limit the success of this innovative program.

For almost all the trades completed to date, extraordinary circumstances existed that mitigate the effects of a harmful tax policy or the absence of regulatory guidance. Those circumstances include sales by a municipality (which are tax exempt), sales by utilities that had already made extra emission cuts to comply with State law (Wisconsin) and were compelled to rebate the sales proceeds to their ratepayers, and like-kind exchanges of allowances, which mitigate the effect of federal taxes.

In circumstances where the effects of existing tax rules are mitigated, owners of excess allowances have made sales. This clearly suggests that modification of the current tax treatment would remove a significant barrier to trading.

Future Prospects for the Market

Several facts strongly suggest that trading in the allowance market will continue to grow over time. Naturally the market will grow as more utilities prepare to comply with Phase 2 of the program. In the near future, extension of the allowance market to profit-motivated non-utility emission sources will also stimulate the market. The refineries, smelters and other SO_2 sources can voluntarily enter the program and will do so if they expect that their cost of cutting emissions is less than the market value of allowances. Some of these non-utility sources can begin trading in 1995. Their participation will increase trading since most are expected to be pure sellers, and all can be expected to be more aggressive in pricing and trading.

The bigger change affecting this market is the movement towards a more competitive, profit-motivated electric utility industry. The latest stimulus to this trend are the portions of the 1992 Energy Policy Act that force greater access to the transmission line system by those wishing to sell power in the wholesale market. This will force power generators to tightly manage all their costs. Instead of casually sitting on unneeded allowances, power generators will more tightly manage inventories in reflection of opportunity cost. All sales of power to other wholesalers will reflect full-cost pricing, including allowance prices. Such strategies are already apparent among the growing group of entrepreneurial Independent Power Producers.

While promulgation of clear regulations and educating market participants will increase the success of the market, perhaps the most critical thing the federal government can do is leave the market alone. For this market to fully succeed, and for other market-based regulations to achieve the degree of confidence needed among those affected, government must set clear rules and refrain from changing them, unless absolutely necessary to protect the environment or remove an impediment to the market. The threat of change alone has the potential to freeze a market and thereby cut off the potential for economic benefit markets provide.

Conclusion

To us, it is clear that market-based solutions work. The CBOT hosts a steady stream of visitors from eastern Europe, China, the former Soviet Union and other countries which are trying to develop market economies. They come to the CBOT because they have learned a key lesson: a mechanism for getting good price information is a necessary foundation for a market system. The Chicago Board of Trade offers a forum for generating prices that accurately reflect market conditions, and the market we plan to offer will generate this needed foundation for the sulfur dioxide allowance market.

We feel that market-driven environmental policy can be extended both globally and locally, and we are seeing efforts on those fronts right now. In Los Angeles, the local emissions trading program will help to significantly lower the cost of reducing industrial pollutants. On the world stage, an allowance trading program to help lower the cost of cutting greenhouse gas emissions is being considered. These programs and others are using the sulfur dioxide allowance market as a model. The Chicago Board of Trade is happy to be a participant in the sulfur dioxide market, and is eager to work with the other market-based environmental programs now being developed.

Appendix A

SUMMARY OF RESULTS OF THE 1993 and 1994 EPA ALLOWANCE AUCTIONS

	Spot auctions[1]		**6-year advance auction**[2]	**7-year advance auctions**[3]	
	1993	**1994**	**1994**	**1993**	**1994**
EPA allowances for sale	50,000	50,000	25,000	100,000	100,000
allowances privately offered for sale	95,010	58,001	50,000	30,500	47,000
total bid quantities	321,354*	294,354	110,489	283,406	489,399
number of bids	106	103	70	65	111
lowest winning bid	$131	$150	$140	$122	$140
average winning bid	$156	$159	$148	$136	$149

[1] allowances usable in 1995 or later

[2] allowances usable in 2000; regulations did not call for a six-year advance auction in 1993.

[3] allowances usable in 2000 for the 1993 auction, usable in 2001 in the 1994 auction

* In the 1994 auction all the 103 bids for 294,354 allowances exceeded $23 per allowance. In 1993 only 92 bids for 242,132 allowances were at prices exceeding $23; *serious* bidding increased in the 1994 spot auction compared to 1993.

Appendix B

Figure 1
Distribution of Bids in the Spot (1995) Auctions, 1993 and 1994

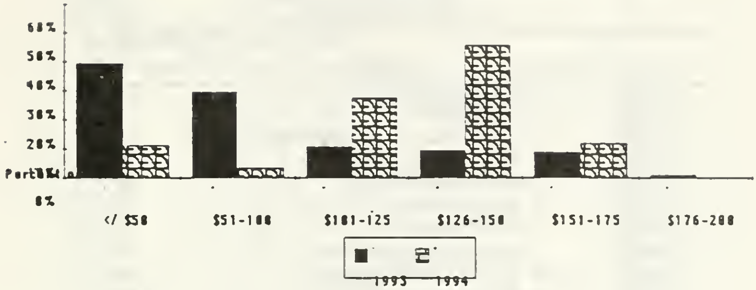
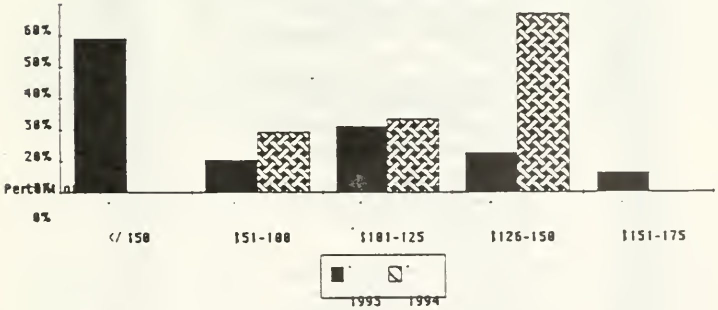


Figure 2
Distribution of Bids in the Seven Year Advance Auctions, 1993 and 1994



Appendix C

Successful Bidders in the 1993 and 1994 EPA Auctions

1993 EPA ALLOWANCE AUCTION RESULTS

Spot Auction (1995)

Bid	Quantity	Firm Name	Cumulative Total
$450.00	1	Ecotech International	1
$369.00	1	P. Eric Ralston	2
$350.00	1	National Healthy Air License Exchn.	3
$280.00	1	Energy Planning Tools, Inc.	4
$251.00	1	World Charitable Trust	5
$234.00	1	Babcock & Wilcox	6
$225.00	1	Victor Niemeyer	7
$208.00	2	Energy Planning Tools, Inc.	9
$201.00	1,000	Kentucky Utilities Company	1,009
$200.00	500	Hoosier Energy REC, Inc.	1,509
$200.00	1	Fieldston Co.	1,510
$200.00	1	William Brady, III	1,511
$200.00	1	Van Horn Consulting	1,512
$176.00	3,000	Kentucky Utilities Company	4,512
$175.00	5,000	Illinois Power	9,512
$175.00	1	Fieldston Co.	9,513
$173.00	70	Savannah Electric and Power Co.	9,583
$171.00	604	Carolina Power & Light Company	10,187
$170.00	2,572	Cantor Fitzgerald	12,759
$162.00	1,277	Carolina Power & Light Company	14,036
$158.00	3	Energy Planning Tools, Inc.	14,039
$157.00	2,636	Carolina Power & Light Company	16,675
$156.00	446	Gulf Power Company	17,121
$152.00	4,085	Carolina Power & Light Company	21,206
$152.00	45	Jemison Investment Co., Inc.	21,251
$151.00	3,300	American Electric Power Service	24,551
$151.00	8,900	Kentucky Utilities Company	33,451
$150.00	10,000	PSI Energy, Inc.	43,451
$150.00	69	Savannah Electric and Power Co.	43,520
$150.00	500	Hoosier Energy REC, Inc.	44,020
$150.00	1	Fieldston Co.	44,021
$142.00	2,914	Carolina Power & Light Company	46,935
$141.00	48	Jemison Investment Co., Inc.	46,983
$138.00	972	Mississippi Power Company	47,955
$132.00	1,567	Carolina Power & Light Company	49,522
$131.00	3,800*	American Electric Power Service	53,322

* awarded a partial fill of 483 out of 3,800: 478 EPA reserve allowances and 10 offered allowances.

1993 EPA ALLOWANCE AUCTION RESULTS

Advance Auction (2000)

Bid	Quantity	Firm Name	Cumulative Total
$310.00	1	C/O Resources For The Future	1
$275.00	1	Fieldston Co.	2
$251.00	1	Charles Kolstad	3
$240.00	100	Emissions Exchange Company	103
$207.00	1	United Engineers & Constructors	104
$200.00	1	Natural Resources Defense Council	105
$200.00	1	Fieldston Co.	106
$171.00	24	William Herrington	130
$171.00	1,209	Carolina Power & Light Company	1,339
$166.00	30	William Herrington	1,369
$162.00	2,554	Carolina Power & Light Company	3,923
$161.00	37	William Herrington	3,960
$157.00	5,272	Carolina Power & Light Company	9,232
$156.00	45	William Herrington	9,277
$152.00	8,170	Carolina Power & Light Company	17,447
$151.00	300	Paul Wedel	17,747
$151.00	54	William Herrington	17,801
$147.00	25,000	Duke Power Company	42,801
$146.00	64	William Herrington	42,865
$142.00	5,830	Carolina Power & Light Company	48,695
$141.00	709	Gulf Power Company	49,404
$141.00	75	William Herrington	49,479
$136.00	87	William Herrington	49,566
$132.00	3,135	Carolina Power & Light Company	52,701
$131.00	100	William Herrington	52,801
$128.00	1,234	The Cincinnati Gas & Electric Co.	54,035
$126.00	114	William Herrington	54,149
$125.00	1	Victor Niemeyer	54,150
$122.00	1,696	Carolina Power & Light Company	55,846
$122.00	55,416*	Carolina Power & Light Company	111,262

* awarded a partial fill of 44,154 out of 55,416.

1994 EPA ALLOWANCE AUCTION RESULTS

SPOT AUCTION (1995)

Bidder's Name	Quantity	Percent of Total*	Amount Paid
American Municipal Power - Ohio Inc.	18,000	36.0%	$2,997,000.00
Allowance Holdings Corporation	12,946	25.9%	$1,941,900.00
Tampa Electric Company	12,000	24.0%	$1,878,000.00
Wholesale Power Services, Inc.	2,600	5.2%	$417,800.00
Cantor Fitzgerald	1,801	3.6%	$302,378.00
Marine Coal Sales Company	1,500	3.0%	$225,000.00
Cleveland Electric Illuminating Co.	550	1.1%	$87,060.00
Gulf Power Company	446	0.9%	$70,022.00
Mark Battaglia	87	0.2%	$13,870.00
CATEX Vitol Electric Inc.	24	0.0%	$3,720.00
L.J. O'Callaghan, Sr.	20	0.0%	$3,230.00
Phil Jensen	20	0.0%	$3,000.00
TV Nation	2	0.0%	$800.00
Cliff Hamal	1	0.0%	$201.00
Nathan Hartman	1	0.0%	$200.00
Univ. of Maryland School of Law	1	0.0%	$200.00
Myles R. O'Kelly	1	0.0%	$159.00
TOTAL	50,000	100.0%	$7,944,328.00

6-YEAR ADVANCE AUCTION (2000)

Bidder's Name	Quantity	Percent of Total*	Amount Paid
Allowance Holdings Corporation	20,000	78.7%	$3,000,000.00
Duke Power Company	3,886	15.3%	$550,040.00
Cantor Fitzgerald	1,000	3.9%	$145,000.00
United Power Association	400	1.6%	$56,400.00
SCANA Corporation	113	0.4%	$16,047.00
Myles R. O'Kelly	1	0.0%	$141.00
TOTAL	25,400	100.0%	$3,767,628.00

7-YEAR ADVANCE AUCTION (2001)

Bidder's Name	Quantity	Percent of Total*	Amount Paid
Allowance Holdings Corporation	90,000	89.3%	$13,500,000.00
American Electric Power Service	5,000	5.0%	$725,000.00
Duke Power Company	2,000	2.0%	$253,000.00
The Cincinnati Gas & Electric Co.	1,839	1.8%	$257,460.00
SCANA Corporation	975	1.0%	$138,450.00
Cantor Fitzgerald	500	0.5%	$72,500.00
Paul Wedel	325	0.3%	$50,050.00
Orlando Utilities Commission	130	0.1%	$19,320.00
Robert T. Stewart	25	0.0%	$4,100.00
Dan Peterman	6	0.0%	$1,250.00
Electric Generation Association	1	0.0%	$200.00
TOTAL	100,900	100.0%	$15,051,330.00

TOTAL AUCTION PROCEEDS $26,763,286.00

* Percentages do not add to 100% due to rounding.

Appendix D

Press Reports on Auctions and Other Developments in the Allowance Market

Washington Post
August 24, 1994

Selling Pollution Rights Cuts the Cost of Cleaner Air

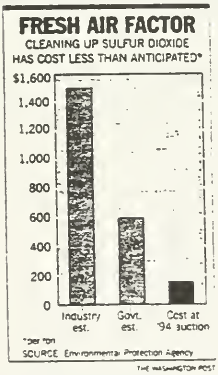
By Martha M. Hamilton
Washington Post Staff Writer

If the air's a bit cleaner next year, you might thank Adam Smith.

A free market system set up in the 1990 Clean Air Act appears poised to produce a faster, cheaper cleanup of sulfur dioxide than either the utility industry or the Environmental Protection Agency forecast when the bill was enacted.

When the bill was being debated, the industry warned that cleaning up the pollutant—which contributes to acid rain—could cost as much as $1,500 a ton. The administration set the cost more conservatively at about $600 a ton. But last year and this year the market set the price at about $150 a ton.

The mechanism at work is a market in emission allowances that utility officials, federal regulators and environmentalists say has encouraged utilities to find the cheapest cleanup methods. An allowance is the right to emit a ton of sulfur dioxide in a year. A utility that cleans up more than required under the provisions of the Clean Air Act can sell the allowances to another utility, which can use them to meet its own cleanup requirement.



Under the Clean Air Act, Congress gave utilities until the year 2000 to cut sulfur dioxide emissions in half. Since sulfur dioxide in the air eventually dissipates, the reduced emissions will constitute an effective improvement in air quality. The cleanup begins next year, but utilities already have signaled to the EPA what their intentions are, indicating that the cleanup will total 22 million tons at the end of the period—considerably more than the 16 million tons required.

"I really don't see what more you could ask for in terms of a program delivering what it promised to," said Joseph Goffman, a senior attorney with the Environmental Defense Fund. Goffman and others said they hope similar methods may be employed to control ozone, which is a major air pollution problem in the metropolitan Washington area.

"Once you leave people with a choice and they have an incentive to do it, they go find a cheap way to do it," said John B. Henry, president of Clean Air Capital Markets, a Washington investment firm that specializes in emissions transactions. Some of the emissions allowances have been purchased in once-a-year auctions conducted for the government by the Chicago Board of Trade, while others have been traded in private deals.

The EPA has set up two elaborate systems for making sure the goals of the act are met. One is a system that requires utility companies to monitor emissions of pollutants hourly and to report that data quarterly. Another is an allowance tracking system that will monitor who owns the allowances.

Brian J. McLean, director of the acid rain division of the EPA, said utilities moved to control emissions sooner than they had to both because they could sell the allowances and because they can bank them and use them in later years when the cost of other controls may be even higher. "You take the environmental insult out of the system faster, so environmentally it's a plus," he said.

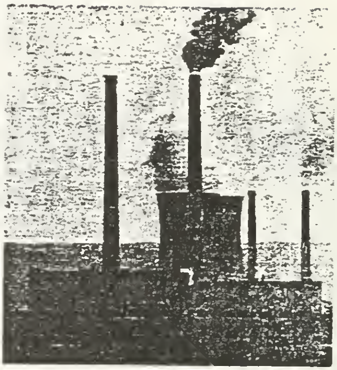
Emissions trading has worked in two ways to lower the cost of the cleanup, said those who have followed the Clean Air Act and its aftermath. One way is by encouraging utilities that are the dirtiest to clean up more than required, since it is generally cheaper to control pollution at facilities that produce more of it.

Duke Power Co. of North Carolina produces much of its power with relatively non-polluting nuclear plants and the rest of it with low-sulfur coal. Anything the utility did to clean up sulfur emissions at its own plants—such as installing "scrubbers," a type of cleanup device, on smokestacks—would be several times more expensive per ton than the cost of similar measures at more heavily polluting facilities where there would be economies of scale, said Russell D. Gillespie, Duke's manager in charge of emissions allowances.

Duke calculated that cleaning up emissions by installing scrubbers would have cost $650 to $750 a ton in year 2000 dollars, he said, far more than it would cost at plants that pollute heavily. Instead, Duke was able to buy 2,500 allowances in the 1993 auction at $147 a ton and 5,886 allowances this year at an average of $141.50 a ton. The electric company will meet its obligations under the law by buying other allowances in the private market and by reducing the sulfur content of its coal still further, Gillespie said.

Duke's customers benefit from the lower costs, and the customers of the utilities that sell allowances benefit by having the cost of cleanup offset by proceeds of the sales, he said.

The second way in which allowances have helped hold down costs is by providing competition for the other methods of controlling pollution, said Michael Gildea, a regulatory analyst for the Edison Electric Institute, a utility trade association. "It creates different option vendors against each other and creates market competition," he said.



THE WASHINGTON POST

Utilities have five years to halve sulfur dioxide emissions.

"You don't need a large volume of trades to have an impact," said Jim Potts, Potomac Electric Power Co.'s vice president for the environment. "When we went out for competitive bids for lower sulfur coal, compared to buying sulfur dioxide allowances, those bids came in very, very competitive," he said. "Just having the allowances out there and a market out there has caused coal suppliers to sharpen their pencils and be as competitive as they can."

Associated Press
March 30, 1994

Pollution Auction, Bjt,510
Price to Pollute Rises Slightly

CHICAGO (AP) - It costs more these days to pollute - with sulfur dioxide, that is.

Winning bidders in the second annual auction of air pollution credits Tuesday paid an average of $159 for the right to emit a ton of sulfur dioxide starting in 1995. Similar credits went for $156 in last year's auction.

Sulfur dioxide, a byproduct of burning coal, causes acid rain.

The auctions, conducted by the Chicago Board of Trade, are part of a free-market approach to curbing air pollution under the federal Clean Air Act. By requiring polluters to buy permits that are limited in number, the EPA hopes to cut annual sulfur dioxide emissions in half, to about 9 million tons, by the year 2000.

The allowances sold at auction are offered by utilities that have been allocated them but don't need them because they have reduced their pollution. Other companies can buy them for the right to exceed federal pollution limits. The credits also are traded privately.

American Municipal Power-Ohio Inc. of Columbus, Ohio, was the biggest buyer of permits effective in 1995, the program's first year. It spent almost $3 million for rights to emit 18,000 tons of sulfur dioxide, or about 36 percent of those credits. Other allowances have start-up dates of 2000 and 2001.

AMP-Ohio, an electricity wholesaler, intends to use the credits for power it buys from other utilities and sells to its members, said Senior Vice President Janine Moon. The company's 77 members are municipal power systems that provide energy to 5 percent to 6 percent of the state's population, she said.

The Adirondacks Council, a New York state environmental group that opposes the pollution auctions, said the results bore out its fears that Midwestern utilities would buy large numbers of credit. Pollution from the Ohio River Valley contributes heavily to acid rain in the Adirondack Mountains, said council spokesman John Sheehan.

Until emission allowance prices reach about $400, he said, utilities will find it cheaper to pollute legally than to install pollution control devices.

``Until that price becomes higher, we may continue to see a migration of allowances to the Midwest, where their use will result in acid rain in New York,'' he said.

The biggest overall buyer was Allowance Holdings Corp., a mysterious group that is believed to be acquiring the permits as an investment. The company's Washington attorney, Eric Murdoch, would provide no information about the group.

The EPA said Allowance Holdings paid a total of $18.4 million for 12,946 allowances effective in 1995, 20,000 effective in the year 2000 and 90,000 effective in the year 2001.

It bought 25.9 percent of the 1995 allowances, 78.7 percent of the year 2000 allowances and 89.3 percent of the year 2001 allowances.

The average price paid for allowances effective in 2000 was $148, up from $136 last year. The average for those effective in 2001, which were not offered last year, was $149.

Financial Times
April 5, 1993

RISK AND REWARD

Chicago attempts to put a price on pollution

THE small and misunderstood sale of pollution rights by the US Environmental Protection Agency and the Chicago Board of Trade last week was the latest step in the evolution of a market. Pricing pollution is no different from pricing bonds, according to Nobel laureate Professor Ronald Coase of the University of Chicago. His work on determining economic costs of social problems forms the basis of the EPA's market-based pollution reduction programme.

"People basically think they need something physical to trade. The point is you never, ever trade in physicals. You always only trade the rights to something. Once that's understood, it becomes much easier to see trading in intangibles," Prof Coase says.

He says the great advantage of a market-based system for allocating pollution is that it achieves a set level of pollution reduction at the lowest possible cost. Eventually, information from that market can become a valuable public-policy tool. "Over the long run, it allows us to determine what the costs of pollution are, and will allow the EPA to balance better the costs and benefits of pollution control."

For industry, a secondary market for pollution permits would communicate the real costs of emissions, forcing producers to factor those costs into the price of their goods. Even environmentalists like the concept. They can use their dollars to buy pollution rights and retire them.

The pollution permits scheme will falter, however, if a liquid secondary market does not develop soon. Only a handful of the permits have traded privately, and last week's auction also failed as a secondary market. All the permits sold had been donated by the EPA, not contributed by utility owners.

The EPA is late in launching its on-line system for clearing secondary trades, forcing counterparties to construct expensive contracts. Regulatory and tax uncertainties also stifle the market.

Some investment bankers say the needs of electric utilities are so diverse, that custom-tailored transactions are likely to win out over mass-market trading systems.

This view conflicts with that of Mr Richard Sandor, a principal inventor of financial derivatives and now an advocate for a CBOT futures market in air pollution permits. He expects the pollution-rights market to mimic the architecture of the credit markets: screen and telephone-based cash trading; dynamic, customised off-exchange derivative trading, and an on-exchange futures market as the ultimate public pricing and risk-management vehicle.

Mr Sandor is willing to be patient – like the bond markets, he expects pollution market synergies to take two decades to achieve. It may take longer.

Nevertheless, Chicago's deep-pocketed trader-entrepreneurs have historically been willing to back applications of the latest pricing theories.

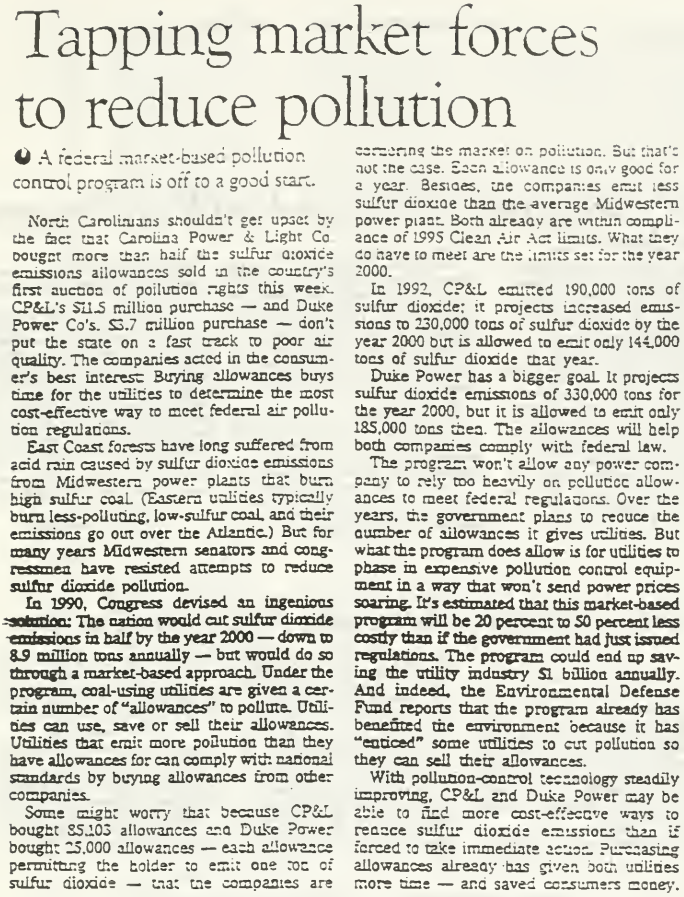
The CBOT is starting a low-cost electronic bulletin board to highlight allowance bids and offers, and will hold periodic auctions to provide necessary spot market infrastructure.

The CBOT has competition in this area, because other exchanges – floor and screen-based – also view pollution rights as a potentially lucrative new venture.

Even if trading fails to blossom, the existence of the permits has provided an economic alternative to more expensive pollution abatement techniques. They have intrinsically brought down costs of environmental compliance.

Regulators are already working to adapt the concept to other forms of pollution – including nitrogen oxide, a chemical precursor to the noxious air pollutant, ozone, and to some water pollutants. Prof Coase would like to see his ideas applied to broadcasting, where he advocates market-based allocation of radio frequencies and other common carriers. Prof Coase's theories are becoming increasingly popular, perhaps because of the growing realisation that the most plentiful of resources – even air and water – are finite and thus have a determinable and defendable value.

Laurie Morse



Tapping market forces to reduce pollution

● A federal market-based pollution control program is off to a good start.

North Carolinians shouldn't get upset by the fact that Carolina Power & Light Co. bought more than half the sulfur dioxide emissions allowances sold in the country's first auction of pollution rights this week. CP&L's $11.5 million purchase — and Duke Power Co's. $3.7 million purchase — don't put the state on a fast track to poor air quality. The companies acted in the consumer's best interest. Buying allowances buys time for the utilities to determine the most cost-effective way to meet federal air pollution regulations.

East Coast forests have long suffered from acid rain caused by sulfur dioxide emissions from Midwestern power plants that burn high sulfur coal. (Eastern utilities typically burn less-polluting, low-sulfur coal, and their emissions go out over the Atlantic.) But for many years Midwestern senators and congressmen have resisted attempts to reduce sulfur dioxide pollution.

In 1990, Congress devised an ingenious solution: The nation would cut sulfur dioxide emissions in half by the year 2000 — down to 8.9 million tons annually — but would do so through a market-based approach. Under the program, coal-using utilities are given a certain number of "allowances" to pollute. Utilities can use, save or sell their allowances. Utilities that emit more pollution than they have allowances for can comply with national standards by buying allowances from other companies.

Some might worry that because CP&L bought 85,103 allowances and Duke Power bought 25,000 allowances — each allowance permitting the holder to emit one ton of sulfur dioxide — that the companies are cornering the market on pollution. But that's not the case. Each allowance is only good for a year. Besides, the companies emit less sulfur dioxide than the average Midwestern power plant. Both already are within compliance of 1995 Clean Air Act limits. What they do have to meet are the limits set for the year 2000.

In 1992, CP&L emitted 190,000 tons of sulfur dioxide; it projects increased emissions to 230,000 tons of sulfur dioxide by the year 2000 but is allowed to emit only 144,000 tons of sulfur dioxide that year.

Duke Power has a bigger goal. It projects sulfur dioxide emissions of 330,000 tons for the year 2000, but it is allowed to emit only 185,000 tons then. The allowances will help both companies comply with federal law.

The program won't allow any power company to rely too heavily on pollution allowances to meet federal regulations. Over the years, the government plans to reduce the number of allowances it gives utilities. But what the program does allow is for utilities to phase in expensive pollution control equipment in a way that won't send power prices soaring. It's estimated that this market-based program will be 20 percent to 50 percent less costly than if the government had just issued regulations. The program could end up saving the utility industry $1 billion annually. And indeed, the Environmental Defense Fund reports that the program already has benefited the environment because it has "enticed" some utilities to cut pollution so they can sell their allowances.

With pollution-control technology steadily improving, CP&L and Duke Power may be able to find more cost-effective ways to reduce sulfur dioxide emissions than if forced to take immediate action. Purchasing allowances already has given both utilities more time — and saved consumers money.

Source: Greensboro News & Record
Editorial, April 1, 1993, P. A6

New York Times March 18, 1993

Lilco's Emissions Sale Spurs Acid Rain Concerns

By MATTHEW L. WALD

The Long Island Lighting Company wants to sell the right to emit pollution to a fuel supplier that would resell the pollution rights to any of a dozen utilities scattered around the Midwest, South and West, according to documents made public yesterday and people involved in the deal.

Disclosure of the name of the buyer, Amax Energy Inc., opens a new chapter in a mystery that has concerned environmentalists for weeks. Many people upstate worry that if the ultimate buyer is a company upwind of New York, a result could be an increase in the acid rain that blows into sensitive areas, especially the Adirondacks.

Several trades of emission allowances have been announced in the last few months, but this is apparently the first in which the buyer plans to resell them, increasing the complexity of the trades.

Kevin A. Feeney, a spokesman for Amax Energy, said the company planned to sell the allowances in a package with its coal or natural gas. "It gives us another marketing tool to use in marketing our products," he said. In practice, with the Clean Air Act of 1990 making it harder to burn high-sulfur coal, offering the fuel with the allowances will simplify compliance for utilities. It resembles selling pizza with the antacid tablets included.

All Lilco has sold is an option to buy the allowances, not the allowances themselves. The New York State Public Service Commission could still step in and stop the deal.

Sale of the allowances is permitted under the Clean Air Act, but environmentalists are concerned that such deals could allow utilities in the Midwest to burn dirtier coal, resulting in more acid rain blowing back into New York.

The news yesterday would greatly increase the difficulty of predicting the effects of the sale.

"This is exactly the worst-case scenario from the point of view of protecting New York State," said Assemblyman Richard L. Brodsky, a Democrat from Westchester County who is the chairman of the committee on environmental conservation.

Lilco previously said it had concluded a deal to sell options on the emission allowances, but had sought to keep the details secret. The Public Service Commission, in a ruling that took effect yesterday, said that Lilco did not have to disclose how many allowances the option covered, or at what price, but that the buyer's name must be

Continued on Page B2

Lilco's Emissions Sale Spurs Acid Rain Worries

Continued From Page B1

made public. The buyer, Amax Energy of Greenwich, Conn., is a subsidiary of Amax Corporation, a conglomerate based in Manhattan. Amax Energy's Indianapolis-based coal company says it is the nation's third-largest producer of coal; another subsidiary, in Houston, produces oil and natural gas.

Amax produced 41 million tons of coal last year, much of it high-sulfur coal from Tennessee, Indiana and Illinois. It also produces low-sulfur coal from West Virginia and Wyoming. Mr. Feeney said the company's coal customers include Ohio Edison, Kansas City Power & Light, the Public Service Company of Indiana, the Central Indiana Public Service, the Tennessee Valley Authority and the Public Service Company of Colorado.

The Midwestern utilities are the ones likeliest to need allowances to meet the Clean Air Act limits on sulfur dioxide, which take effect in 1995. Some will build "scrubbers" — devices that filter sulfur dioxide and other pollutants out of smokestacks — on their plants, others will switch to lower-sulfur fuel and still others are expected to buy allowances.

Lilco to Lower Rates

The allowance trading system was approved by Congress at the urging of economists and some environmentalists, who said it would improve efficiency in pollution reduction. The intent is to encourage that reductions be made in the cheapest way possible while not affecting the amount of emission reduction nationwide.

The act gave Lilco a windfall because a New York State law forced it to reduce emissions in the 1980's to levels below what the Federal law will require. As a result, Lilco has 40,000 to 50,000 allowances a year to sell, each representing one ton of sulfur dioxide, beginning in 1995. Publicly announced trades have pegged the price of an allowance at $250 to $400.

Lilco said it would use the income to lower its rates, which are now the highest in the mainland United States.

But environmentalists said a result would be to hurt the vulnerable Adirondacks. "There is the potential for extreme damage from a sale like this," said John Sheehan, a spokesman for the Adirondack Council. "Part of our problem with this process is there is an inherent lack of accountability as far as what will result from the trading of allowances," he said.

The solution, he said, was for the Environmental Protection Agency to set limits on the amount of acid rain that could be deposited, and review each trade to see whether it would push any area over the limit.

Assemblyman Brodsky is the author of a bill that would permit the Public Service Commission to block such trades if it found them harmful to New York State.

New York Times January 25, 1993

Risk-Shy Utilities Avoid Trading Emission Credits

By MATTHEW L. WALD

When Congress amended the Clean Air Act in 1990, backers said the law would cut $1 billion a year from the cost of reducing pollution, introducing free market efficiencies to a command-and-control system by letting utilities trade "emissions allowances" among themselves.

So far, though, the market is a nonstarter. With the first deadline looming, only a few trades have been announced, and the terms of those have not been made public. As a result, utilities owning more than 15,000 megawatts of coal fired power stations, nearly 20 percent of the affected total, have decided to build "scrubbers" without a clear idea of how much it would cost to meet their obligations by buying the allowances instead.

Benefits Unclear to Industry

Utilities are also unsure how much they could have earned by building extra scrubbers and "overcomplying" with the law, for which they would receive credits that they could sell to other companies.

A market could still emerge in time to be useful to help utilities meet the second, stricter round of environmental requirements in 2000, but it would have to happen soon, according to specialists in the field. That is because of the long lead time required to build and test scrubbers. Some experts say the impediments that have blocked the market so far are still present, including the industry's aversion to risk that makes the whole system seem the equivalent of teaching elephants to dance.

"Utilities have no motive; they're looking at compliance, not profit," said Don Justin Jones, the managing director of a consulting firm that specializes in utilities and environmental issues. Under the rules enforced by state public service commissions, he said, if a trade saves money, electric rates are cut, but if a trade later turns out to have raised costs, shareholders suffer.

The message to engineers and planners who would have to arrange the trading, Mr. Jones said, is that "if you screw up you get shipped off to count transformers."

Risk Aversion

At the Edison Electric Institute, a trade association of investor-owned utilities in Washington, James E. Evans, the director of environmental activities, said the market's development had been inhibited by its hybrid nature. "It certainly is difficult when you try to overlay a market based approach on a regulated industry like the utility industry," he said.

For many of the companies, Mr. Evans said, their antipathy toward risk means generating a few extra emission allowances, but holding onto them in case of future need rather than facing the possibility of running short and being at the mercy of sellers, or of being fined by the Environmental Protection Agency.

Only a handful of the trades have been announced, involving a few thousand tons of sulfur dioxide, the chemical that causes acid rain. Analysts say that there have been some private deals, but that these, too, were small. And there has been no public announcement of the prices involved, other than a general statement of between $250 and $400 a ton.

The deals will eventually come into the public record through applications to state regulatory agencies for rate increases. But the utilities appear nervous about disclosing the financial arrangements, especially when the deals could be considered trend-setters.

In addition, the buyer may suffer from image problems. When the Tennessee Valley Authority said that it would buy 10,000 tons of emission allowances from Wisconsin Power and Light, environmentalists in Tennessee complained that the decision would make their region dirtier.

Some Benefits Seen

The trading system has already provided some benefits, however, by allowing utilities to "trade" within their own systems, experts said. Scrubbing big plants is cheaper, ton for ton, than small ones, so the trading system has allowed companies with several dirty plants to overcomply at one, in effect averaging the emissions among the company's plants.

> If a deal turns out bad, shareholders, and managers, suffer.

Some experts said that a market for inter-company trading may yet be jump started in April, after the E.P.A. auctions a stock of allowances. Proponents of the trading believe that auction should establish a clear price.

The Chicago Board of Trade is still planning to make a market in "allowance futures," permitting utilities or others to lock in prices of allowances or gamble on future price moves. Richard L. Sandor, a director of the Board of Trade and the official in charge of the allowance market, said it was too early to conclude that a market would not develop.

"You've got years to go, and interest from all kinds of industrial corporations," he said. In the second phase, in 2000, he noted, companies outside the electric business could "opt in," or clean up their own emissions and generate allowances for sale.

Stricter Rules for the 2d Phase

The requirements for 2000 will be substantially harder to achieve. While the 1995 phase covers 110 of the largest, dirtiest plants in 21 Eastern, and Midwestern states, the 2000 phase covers about 800 utility plants nationwide. The 1995 requirement restricts boiler emissions to no more than 2.5 pounds of sulfur dioxide for each million British thermal units they produce, an amount of heat sufficient to make about 10 kilowatt-hours of electricity. In 2000 the standard drops to 1.2 pounds per million B.T.U.'s.

Even with the current reticence in the industry, some believe the emissions allowance market is about to heat up. John D. Henry 2d, whose company, Clean Air Capital Markets arranged one of the few publicly announced allowance deals, said that 1993 would see "a rash of deals."

Building and testing major scrubbers takes four years, Mr. Henry said, so that meeting a deadline of 2000 would require starting in 1996. Most companies would want to start their construction two years earlier to persuade regulators that the scrubbers were needed and their costs should be billed to customers. That would move the starting date up to the beginning of next year.

Mr. SHARP. Thank you very much.

Let me ask our last two panelists—Mr. Rose and Mr. Walsh outlined some of the limitations that may be depriving us of the full benefits that we might derive from this market approach to implementation; I wondered if Mr. Smith, Mr. Hawkins and Mr. Goffman wish to comment on them?

Mr. Walsh and Mr. Rose outlined—I mean Mr.—I am addressing the question to Mr. Smith.

Mr. Rose outlined several things which Mr. Walsh had somewhat elaborated on as to why some of the utilities are not more aggressively pursuing this market at this time, and I wondered is it the difficulty of the new way of doing business, is it the uncertainty with the State or government regulation or the taxation question or a combination or other factors?

Mr. SMITH. Well, Mr. Chairman, I think it is probably because the first objective is compliance, not trading. And there is sort of a shake-out going on. The utility industry is trying to find its way and trying to first be sure that it is going to have sufficient allocations to comply.

I don't know that I should predict the market. If I told you what my record is on that, you wouldn't listen anyway. But in a well-matured market, I believe that as we learn more about the market, there may be a greater tendency to participate in it. But I should assure you that first objective, given all the penalties and all the things in the Clean Air Act, our first objective is compliance.

Mr. SHARP. And that helps explain, I think, the document that the Assistant Administrator gave us this morning or was released this morning, I believe shows that it is a fairly high percentage of holding of allowances which might be sold if the utility may find in its financial interests ultimately to sell, but right now seems to be sitting on them. Is that—is it your view, because they want to be sure that they are in compliance before they risk giving away an asset that they may need?

Mr. SMITH. Well, there is certainly a lot of additional complication that has been discussed here by the other panelists. But I think that is certainly true. We are accumulating allowances. We will accumulate allowances through both phases or through the first phase, certainly, because we anticipate needing them in the second phase.

The other complication, of course, is how are the rate-makers going to treat any of these credits, allocations, if you sell them, and then have to buy them back. Prudence, a question of whether you have made the right decision at the right time. I think there are some of those forces at work here.

Mr. SHARP. Has—I will keep you a moment, then we will add other's comments on some of these questions.

But Mr. Rose made some allusions to the changing world as a result of bulk power competition and how the distraction of both the regulator—and he didn't bother to say what he knows very well, which is the utility industry itself is not just distracted, it is in considerable turmoil over California and other initiatives that are underway, trying to figure out what the world is going to look like and how to participate in it.

He raised the question as to whether IPCC, apart from the pulling resources over to other issues, whether or not that has had an impact on compliance strategies; whether or not as people have begun to view a different world, some people foresaw it and to many it was a surprise it hasn't moved as rapidly as it has, that they would face bulk power competition; so whether that is, in fact, having an impact back on people's strategies and what to do with compliance and to hold these assets or wait to sell them at a better time in the future, or whether to choose scrubbers over low-sulfur coal, those kind of questions.

Mr. SMITH. I can only speak from my own personal experience. I don't think those issues have distracted too greatly from our planning process. I don't think they really affect what we would or would not have done in the absence of that.

Our costs would be significant even though we will not be building scrubbers. And, of course, the objectives in today's world is to keep costs as low as possible, hoping not to increase rates, hoping to be able to compete well in a market that is evolving in the power industry at a very difficult time.

Mr. SHARP. Mr. Hawkins or Mr. Goffman, did you want to comment on some of those questions?

Mr. HAWKINS. I have a couple of thoughts.

I am not particularly surprised by the somewhat cautious exploration of the market by electric utility companies. I think given what people can find out about the market, it is probably rational behavior at this point. And it will probably improve and expand.

In some ways, it reminds me of a Skinner box experiment. The entities in the box are a little cautious about poking around in the dark corners until they find out where the pain is administered and where the rewards are administered. And in a lot of ways, the box probably has more pain centers than it does reward centers.

There are lots of anxieties about what happens if you pay too much for these things, and probably not all that much clarity about what good things happen to you if you get a bargain price in terms of whether you get PUC recognition or allowed to pass some of it on to your investors or get credit for having reduced the compliance costs in the local papers or whatever.

On the tax issue, I haven't opened a tax book since law school, but I will try to wade in anyway. My simpleminded thought on this is that the basis for these allowances, in some way, should reflect what it costs the utilities not to receive them, but what it costs to free them up so that they become surplus and are in the position to be sold to someone.

I think the simpleminded approach to this is, gee, since Congress gave these allowances to the companies for free, they ought to have a zero basis. I think it is more complicated than that.

While companies did receive allowances for free, to continue operations many of those companies that received them for free, need each and every one of those allowances, and indeed they have to incur costs down to the point where they have generated a surplus allowance. So it would be possible to look at the marginal costs of generating surplus allowance, number one, surplus allowance, number two, and so on, and treat that as the basis.

Some of the companies received more allowances in the initial congressional allocation than they needed to comply. Perhaps the greater the needed allowances do indeed—should receive a zero-cost basis. But for those that have to actually spend money to reduce emissions in order to free up allowances for sale, there seems to be some logic for a different basis treatment for them.

Mr. SHARP. Well, it does strike me that I don't recall anybody in the debate thinking that the Congress was offering gifts when it gave allowances, that the theory was—the question was, is how great the pain would be and how restrictive the system would be depending on how many allowances were issued? So it was not an act of generosity that one could count on, I mean, in part over the distribution of them, and I was engaged in that fight.

Mr. HAWKINS. Well, there were a few of us finicky types around who would have thought that a purer system would have been to auction off these allowances in the first instance. And then a price clearly would have been established for all of them and the basis would have been established as well. But we decided we wanted to work for something that would pass instead.

Mr. SHARP. I see why you have been so successful over the years, both at EPA and with the environmental community, seeking stronger laws.

Yes.

Mr. GOFFMAN. I can't resist jumping in, obviously. There was a draft of an initial piece of paper coming out of my organization back in 1988, I think, that did refer to a sizeable auction. But we made the same calculation about the probabilities of success.

I think that I am going to stay, I guess, in character for a second, as the tireless advocate of reform of environmental policy and diversification of environmental policy tools. So that the record is clear, I hear much of what was said by my fellow panelists about the failure of this still young child to achieve its full adult potential, to be a reflection largely of specific institutional issues that characterize the utility industry and its regulatory institutions, and, you know, not a fundamental critique of the environmental law side of what was accomplished here.

And I know I am just belaboring the obvious, but again I think that is important, to sort of parse the category of issues. I think that there seems to be two groups of regulatory bodies that still have ultimate contributions to make.

One is, obviously, the IRS. And while I harbor the tiniest little bit of skepticism about whether or not a zero-basis capital gains tax hit is all that decisive, I suspect that if policymakers, either in the executive branch or in Congress wanted to tackle this problem, and there is a social preference for lots of allowance transactions, it might be worth looking at something that I think probably tax economists can figure out pretty well; which is in those capital-gains subject commodities or properties in which there is a reasonable amount of market activity, you know, what is the sort of average differential between basis and transaction cost, and maybe from a strictly kind of outcome or utilitarian point of view, try to figure out how to smooth out this issue.

As Mike Walsh said, in a way to put allowances in that category, to the extent that there is so much evidence that active trading in allowances would really be helpful.

The other regulatory institutions that we haven't finished hearing from are the PUC's. And the question really remains, is given how many revolutions are going on in this industry in addition to the mini-revolution that this program created, whether or not what is, I think, an increasingly relentless drive towards efficiency, cost savings, or to rephrase that, you know, finding the inefficiencies and wringing them out of the system by increasing competition, I can imagine that sooner or later as that trend takes firmer hold, it will find the inefficiencies that remain in this system and drive them out, too, and that the technical issues that Ken Rose raised will ultimately have a big enough constituency to push to their solution.

Mr. SHARP. I might add for the record, my impression is, Mr. Goffman, there is probably no single individual in the country that has been more importantly involved in both the creation, the passage and the implementation of this legislation, for which I think the country should be thankful.

Are there others who wish to comment on these questions about, you know—yes, Mr. Rose, come back to you.

Mr. ROSE. Just a brief rebuttal.

And I have, for the reasons you cited, I have a great deal of respect for Joe Goffman. But I did not, I don't think Mike did either, I don't mean to speak for Mike here, refer to a failure of the system. As I mentioned in my talk, and it is also in the paper, we are way ahead of the game where we would have been with command and control, there is no doubt.

What we are talking about is wringing out the last bit of benefit. And we are seeing this mismatch between costs and the use of the market.

I also heard a little bit about this learning curve aspect. And I would just like to point out that we are almost 4 years now into the implementation of the Clean Air Act, and less than 3 months away from beginning of Phase I.

All the utilities have made their Phase I decisions. In fact, those were set 2 years ago. That is—really we should be talking about Phase I in the past tense in some sense, because there is probably going to be very little that is changing while we get into Phase I.

So what we are really talking about is fine-tuning it for Phase II. And probably sometime in the middle of Phase I, 1997 or so, we will probably be getting into the next phase which would be getting ready for Phase II.

Having just met Mr. Smith, I am a little reluctant to go after him. But his—but that won't stop me. His opening remark about that first it is compliance, then trading, is a very telling remark. And I will submit that as Exhibit A, and the type of thinking that a lot of utilities have used for this. And also point out that under this type of a system, trading is complying, that they are one and the same thing.

You don't—a lot of utilities took exactly that type of position; what do I have to do within my system to comply, and then worried about if they needed excess allowances beyond that.

Mr. SHARP. That is the whole historic position, the way the industry has been regulated and operated. I mean, it is not too surprising, maybe the world is changing.

Mr. ROSE. That is right. That is why what we have recommended is that the commissions make that connection between the market, rather than their costs of compliance, and that enforces that, for their planning purposes then, to incorporate the allowance price in there.

What they should be doing, as I outlined at the beginning, is looking at the market price, comparing it to their costs. That is how the planning is supposed to be.

I think they are in the command and control mind frame to look at it first that way, and then worry about what are the allowances out here, how do we deal with that? And I mentioned several reasons why I think that may have come about, and the big one is regulation.

Mr. SHARP. Well, maybe Mr. Smith would like to comment.

Having lived under command and control for so many years, they may find it hard to believe anybody could do it differently or that the government would do it differently.

Mr. SMITH. Well, perhaps my sense is that it is more the law, the Clean Air Act, that imposes this upon us, than it is any other force. This is a bit of a different market, actually, than we are accustomed to trading in.

If I trade on the Chicago Board of Trade on a commodity, I only stand to lose money. We have added now, if I don't have the right amount of commodity at the end of the line, I may go to jail. There is some distinction here. There is quite a penalty to pay if you do not comply.

Mr. SHARP. It gets your attention.

Mr. SMITH. It does get your attention, yes.

Mr. SHARP. All right. Let me—go ahead, yes, Mr. Hawkins.

Mr. HAWKINS. Just a comment about I don't think I would agree that Phase I is over. According to Mr. Rose's prepared testimony, about two-thirds of the plants are complying with Phase I by fuel-switching strategies. To the extent that there is a price differential associated with those fuel-switching strategies, because they don't involve heavy capital investment, they may and can modify their compliance decisions at any point during Phase I. They may decide to reduce the blending that they may be doing in order to maintain compliance and instead purchase allowances.

So I think that we aren't necessarily in a situation where there is a lag time of 4 or 5 years before you will see differences in the markets emerging.

Mr. SHARP. In other words, the strategies keep changing, is the point.

Mr. GOFFMAN. Just to be clear, I think Ken was rebutting certain arguments that I might have made a year or two ago in other forums, before I had the benefit of his tutelage. So please don't read—I would hope not that the record doesn't reflect too much disagreement between, you know, some of the positions or some of the points that Ken outlined and EDF's view of the issue.

I appreciate your remarks, Mr. Chairman. I didn't know you knew my mother in terms of handing out credit for this program.

In my view, the list of the persons most open for this probably runs into the triple digits. The person, the gentleman I am speaking to, and at least one of the gentlemen to my left, is on that list as well.

Mr. SHARP. Well, you are kind. The gentleman on your left I know deserves a very prominent position there. This gentleman was just in the fight to implement up here. Certainly didn't create—yes, sir, Mr. Walsh.

Mr. WALSH. Mr. Chairman, in part because I hope to add Mr. Smith to our list of future customers, I would like to rise to his defense. But only in part.

Mr. SHARP. We appreciate your being square with the record.

Mr. WALSH. Perhaps unusual. This is a brand-new commodity. This is not soybeans or corn or Treasury bonds that people have been trading for decades or centuries or millennia. This is an unknown animal to many people. Even though it is clear it was approaching in the late 1980's and became law in 1990, the utilities didn't know what this was. And new commodity markets don't pop up overnight, behavior does not change overnight.

I have met enough intelligent people in the utility world to simply conclude that their behavior is a product of the regulatory structure in which they operate. So we remain—I think the amount of trading that has occurred to date is, in fact, quite amazing, considering all the baggage and all the restrictions that are imposed on this industry from the process. And I am not questioning that the process is necessary or not. It simply is there.

Regarding banking and holding of excess piles of allowances, if you will, it is not clear that there is any incentive to do anything but that. If one sells the allowances and flows through 100 percent of the revenues to their consumers, there is simply no reason to be aggressive in selling.

The fine-tuning that Mr. Hawkins talked about in terms of fuel blending is an idealized outcome that everybody hopes will occur. I think we are a long way from that.

Mr. Rose used the term fine-tuning. I view this as are we on UHF or VHF? We are not fine-tuning at all yet. We are still talking about major improvements that can be made to improve the efficiency of the system.

The public needs to know about this. One of the basic points I have tried to raise is the amount of cost savings we are talking about each year is, roughly, on the order of a brand-new, good-size power plant.

In Washington, I don't know if that is a lot of money. In the rest of the country, it is an enormous amount of money. We have got to try to save as much as we can.

Mr. SHARP. Excuse me, that figure, is that what you say are the current savings or that is what is the potential with improvements?

Mr. WALSH. I think some of the experts up here, and I can't disagree with sort of the seat-of-the-pants analysis, that the potential is $2, $3, $4 billion a year in savings, and we are maybe getting half of that now. We have the potential to get half of that without a whole lot of improvement over where we are at. But either way, we are talking about a decent-sized power plant that remains out there each year to be captured if the system works more efficiently.

And finally, sir, let me reference the written testimony provided by Mr. Stanley Garnett, the chief financial officer of Allegheny Power Systems. In his testimony, he has attached a fairly straightforward, and we think, simple proposal to do some of the things with tax policy that have been suggested here. It is a smoothing system that is by no means arbitrary, by no means asking for a preference. Quite the opposite, we feel there is a substantial distortion that needs to be removed.

And again, we may not be seeing the effects of that now, but you can be sure it is there. May not be possible to prove it, but it has such a big magnitude of tax impact that we feel that it is imperative it be addressed as soon as possible.

Thank you.

[The prepared statement of S.I. Garnett, II follows:]

Statement of S. I. Garnett, II
Allegheny Power Systems, Inc.

U.S. House of Representatives Energy and Power Subcommittee of the Energy and Commerce Committee

Hearing on the 1990 Clean Air Act Amendments Focusing on Implementation of the Acid Rain Program

October 5, 1994

Chairman Sharp and Members of the Subcommittee:

My name is Stan Garnett. I am a Senior Vice President and the Chief Financial Officer of Allegheny Power System, Inc. (APS). The purpose of my statement today is to call your attention to a major unresolved federal income tax problem which, in my opinion, is undermining the intended effectiveness of the allowance trading scheme which is at the heart of the Clean Air Act Amendments of 1990 (the Act). I will also refer to a possible action by the Federal Energy Regulatory Commission (FERC) involving accounting for emission allowance use which could substantially discourage market-based transactions.

APS is an electric utility holding company registered with the S.E.C. under the Public Utility Holding Company Act of 1935. The APS operating company subsidiaries - Monongahela Power Company, The Potomac Edison Company and West Penn Power Company - serve approximately 1.3 million customers in five states. The coal-fired electric generating facilities of the APS companies are among those most profoundly affected by the Act. Some 65 percent of our generating capacity is subject to the stringent SO2 emission reduction requirements effective January 1, 1995 which are imposed by the Act.

I was extensively involved in the activities which led to the passage of the Act, serving as a spokesman for the Coalition for Acid Rain Equity. In addition, I have chaired the Allowance Pooling Group since its inception in 1992. The Group, as you may know, was formed by all of the electric utilities eligible to receive the extension and bonus allowances to be awarded under the Act so that the distribution of those allowances would be more rational than would have been the case with the lottery established by regulation. At APS, my responsibilities require substantial involvement in all aspects of System finance and long range planning, including the planned use of the extensive emission allowances which will be awarded to APS companies. As a result, I have had involvement in virtually all issues involving Clean Air Act emission allowances.

Taxation of Initially-Allocated Emission Allowances

The issuance of transferable emission allowance certificates to the owners of "affected facilities" was the unique hallmark of the Clean Air Act Amendments of 1990, and a radical departure from the tradition of "command-and-control" environmental legislation. The economic theory was that the individual owners of affected facilities could make their own decisions as to how to restrict sulfur dioxide emissions. The proponents of this market-based legislation believed that some owners would choose to "overcontrol" through the installation of scrubbers (the typical scrubber will remove at least 95 percent of the SO2, well beyond the removal level necessary to meet either Phase I or Phase 2 levels at the facility), while other owners would choose to "undercontrol" at their affected facility, and would buy extra allowances from those owners who chose to overcontrol, presumably on some "split-the-savings" basis. Assuming rational utility decision-making (i.e., those who could cheaply and efficiently overcontrol would do so, and those who could not would not) and the availability of an efficient market in which allowances can be traded, this market-based approach to emission restriction should produce the desired emission reductions at a far lower cost than would be the case through conventional command-and-control, in which all owners of affected facilities are required to reduce emissions by a certain percent at each facility (regardless of cost).

Extensive economic studies which illustrated the savings from the market-based approach were furnished in the legislative process. Based upon my own personal research and that of others extensively involved in the legislative process, *not a single such study showed any income tax effect associated with the sale of allowances!* In fact, many or most of the studies used examples of trades between over- and undercontrolling owners at cost and selling price levels which make no sense if a significant tax effect is involved. The IRS has ruled that originally issued emission allowances (meaning all that are issued directly to owners of affected facilities) have a zero tax basis and, if sold, would be subject to capital gains taxation. As a practical matter, this will constitute an upfront 35% "excise" tax to which any utility planner will have to give most serious consideration in any decision to overcontrol or to sell or trade allowances.

While Congress and the Bush Administration may have overlooked the income tax issue in 1990 (the evidence is that they did), to the extent the Treasury is to enjoy a tax windfall, the tax should be a rational one. Unfortunately, the present tax result is not rational. From a cash flow standpoint, virtually any overcontrol strategy involves the upfront expenditure of large amounts of capital. This large capital investment must be recovered via depreciation over a comparatively long period of time in the tax returns of the owner of the affected facility. Nevertheless, the "fruits" of this investment, in the form of extra or freed up emission allowances, will have a zero tax basis and will be subject to full capital gains taxation as soon as they are sold, regardless of the fact that the tax deductions for depreciation will not be allowed for many years. Retention of emission allowances for internal use, by way of comparison, is substantially tax favored because no tax results from use of an allowance. Accordingly, internally focused compliance strategies will be selected as more economic solely for tax reasons, extra allowances from overcontrol at one unit will be held for use at other owned units or banked for future use, and intercompany trading will be artificially handicapped.

I urge the Congress to enact legislation which will correct this problem by deferring the taxation of emission allowance sales in a pattern consistent with that of the associated depreciation.

The proposal would confer on each owner of an affected facility the voluntary, non-coercive right to elect to apply emission allowance sales proceeds to reduce the tax basis of the affected facility and so defer capital gains taxation. The Treasury will reap the same tax revenues over time through the lowered depreciation tax deductions in subsequent years. The facility owner, in turn, will have a far better cash flow profile for overcompliance plans which involve the sale of extra allowances. The result of this proposal should be that overcontrol strategies will no longer be penalized by the tax code, and that the owners of affected facilities will increasingly turn to the allowance market in pursuit of least cost compliance strategies.

The National Association of Regulatory Utility Commissioners (NARUC) has recently adopted a resolution supporting our proposal. It was clear to NARUC that the present federal income tax treatment was undercutting the desired functioning of the market in emission allowances and, in the process, was imposing substantial additional costs upon utility ratepayers throughout much of the country.

The legislative proposal advocated by the APS companies is attached.

FERC's Proposed Linkage of Transmission Access and Emission Allowance Policies

The Federal Energy Regulatory Commission has very important accounting jurisdiction over broad aspects of the electric utility industry. Although accounting matters are often considered to be mainly administrative and book-keeping in nature, they are in fact often very important areas for the development and application of policy. At this time it appears that the FERC may link their developing policies regarding transmission access with the entirely separate issue concerning the manner in which utilities value their emission allowances which are used (or consumed) in the production of electric power for sale in interstate commerce to other utilities. The essence of the FERC proposal is that emission allowances which are utilized in FERC jurisdictional sales (generally, wholesale to other entities for resale) must be charged at cost *unless* the FERC determines that the selling utility is in compliance with FERC transmission policies *in which case* the seller may then charge market. As is obvious, allowances held by any utility which were issued to it directly by the EPA will have a zero cost basis and hence would literally have to be given away if used to generate electricity which is sold on the wholesale market. No utility will willingly make such a sale. Accordingly, application of such a policy by the FERC could lead to a substantial interference with the wholesale power market and, in the process, frustrate one of the key goals of the Clean Air Act Amendments of 1990: i.e., the efficient transfer of allowances among electric generators. I do not mean here to argue one way or the other about the merits of the transmission policies of the FERC; the point is to note that the advancement of one federal policy through the accounting venue may lead to the substantial frustration of another important federal policy in the environmental area.

Thank you for the opportunity to present my statement on this important issue.

October 5, 1994

Legislative Proposal for Appropriate Taxation of Sulfur Dioxide Emission Allowances Allocated by the Environmental Protection Agency

BACKGROUND

A. Clean Air Act mechanism for transferability of allowances.

Title IV of the Clean Air Act Amendments of 1990 ("the Act") charges the EPA with establishing a program to reduce the adverse effects of acid rain. A central component of this program is the allocation of transferable allowances to emit sulfur dioxide ("allowances") to certain electric generating companies ("utilities"). Under the program, the EPA allocates annual allowances to certain fossil-fuel-powered combustion devices ("units"), such as boilers owned by utilities. Beginning in 1995, an allowance permits its holder to emit without penalty one ton of sulfur dioxide. (See appendix for a more detailed summary of the allowance program.)

An allowance may be either (i) applied against sulfur dioxide emissions occurring in the year for which it has been designated by the EPA; (ii) transferred, sold or exchanged by the utility owning the unit to which it was allocated; or (iii) held by the utility and applied against sulfur dioxide emissions occurring in a future year. An allowance, however, may not be applied against emissions occurring in a year prior to the year for which it is designated by EPA.

One of the primary goals of the Clean Air Act Amendments was to replace traditional "command and control" regulation with market-based regulation. The allocation of transferable emission allowances was the vehicle chosen for implementation of this policy. By making emission allowances transferable, Congress attempted to insure the efficient channelling of resources to pollution control. Persons who can reduce pollution by a given amount at a low cost may sell their allowances to persons for whom achieving an equivalent reduction of pollution is more costly. Thus, provided the market in emission allowances operates efficiently, pollution control will be conducted by those who can accomplish it most cost-effectively, reducing the total cost to our economy of complying with the Act..

B. Federal tax rules applicable to acquisitions and sales and exchanges of emission allowances.

The Internal Revenue Service has announced several conclusions with respect to the taxation of allowances. First, the allocation of an allowance to a utility creates no taxable income to the utility. In addition, the utility has no basis in the allocated allowance measured by its fair market value, but any cost incurred to acquire or hold the allowance would be capitalized as a part of its basis. Such basis is not recoverable through depreciation or amortization but is allowed as a deduction in the year the allowance is actually applied against sulfur dioxide emissions. If a utility sells or exchanges an allowance, then generally it will realize capital gain or loss on the transaction to the extent of the difference between the amount realized and the utility's adjusted basis in the allowance.[1]

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[1] Special rules are contemplated where an allowance is acquired after the end of a calendar year during the "makeup" period, for allowances held for sale to customers in the ordinary course of business, for exchanges of allowances as like-kind property, and for the treatment of the disposition of allowances that are withheld and sold by the EPA as an involuntary conversion if the proceeds are invested in similar property (such as other allowances).

PROBLEM

To be effective, the emissions reduction program must permit utilities an undistorted choice between (i) using the allocated emission allowances and (ii) reducing emissions and selling their excess allowances. The rules announced by the Internal Revenue Service result in more favorable tax treatment for utilities that keep their allowances than for utilities that sell them. Taxation of the proceeds of zero-basis assets creates an enormous incentive to hold excess allowances. In essence, federal tax policy thwarts the free transferability and efficient allocation of allowances, resulting in higher pollution reduction costs to utilities and their customers.

PROPOSAL

A UTILITY[2] THAT SELLS SULFUR DIOXIDE EMISSION ALLOWANCES ALLOCATED TO IT BY EPA MAY ELECT NOT TO RECOGNIZE THE GAIN FROM SUCH SALE.

THE ELECTION SHALL BE MADE ON A TIMELY-FILED RETURN, INCLUDING EXTENSIONS, FOR THE YEAR DURING WHICH THE SALE OCCURS. THE GAIN QUALIFYING FOR THE ELECTION SHALL BE REDUCED BY ANY AMOUNTS THE TAXPAYER EXPENDS IN THE PURCHASE OF ALLOWANCES WITHIN TWO YEARS OF THE SALE.

AN ELECTING UTILITY SHALL BE REQUIRED TO REDUCE THE TAX BASIS OF ITS POLLUTION CONTROL EQUIPMENT BY THE AMOUNT OF THE PROCEEDS RECEIVED. THE TAXPAYER SHALL DESIGNATE THE PROPERTIES THE BASIS OF WHICH IS TO BE REDUCED WITHIN TWO YEARS AFTER THE SALE. TO THE EXTENT THAT THE GAIN NOT RECOGNIZED UNDER THE ELECTION EXCEEDS THE BASIS IN POLLUTION CONTROL EQUIPMENT DESIGNATED BY THE TAXPAYER WITHIN SUCH TWO-YEAR PERIOD, THE UTILITY SHALL INCLUDE SUCH EXCESS IN TAXABLE INCOME FOR THE YEAR OF THE SALE.

POLLUTION CONTROL EQUIPMENT IS DEFINED AS EITHER:

1. PROPERTY THAT QUALIFIES AS A CERTIFIED POLLUTION CONTROL FACILITY FOR PURPOSES OF INTERNAL REVENUE CODE SECTION 169, EXCEPT THAT THE FACILITY NEED NOT BE USED IN CONNECTION WITH A PLANT OR OTHER PROPERTY IN OPERATION BEFORE JANUARY 1, 1976; OR

2. DEPRECIABLE PROPERTY PLACED IN SERVICE AS A RESULT OF COAL HANDLING OR COMBUSTION EQUIPMENT MODIFICATIONS.

DISCUSSION

Correct Tax Policy. Determining the proper taxation of initially-allocated emission allowances presents something of a dilemma. The IRS has correctly decided that the receipt of such allowances creates no taxable income since the initial allowances are part of a new regulatory scheme that constitutes a burden -- not a benefit -- to the recipient utility. The "asset" (the allowance) results in no accretion to wealth when received, and results in no accretion to wealth when converted to cash. Moreover, the conversion imposes significant obligations on the utility; generally, the utility will be in a position to sell an initially-allocated allowance if and only if it undertakes significant expenditures to reduce emissions or to purchase replacement allowances.

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[2] While the Act allows certain non-utilities to voluntarily opt into the allowance program, the proposal would apply only to taxpayers that are required to participate.

The recipient utility has two options with respect to each initially-allocated allowance: it can use the allowance to comply with the Act or it can sell the allowance and take other steps to comply with the Act. The use of initially-allocated allowances is in fact taxed on a deferred basis since the zero-basis allowances will yield no deduction when consumed. Since the use option is tax deferred, unless the sale option is accorded similar treatment, the tax system will bias the utility toward selection of the use option. Thus the imposition of a current tax on the sale of initially-allocated emission allowances will thwart the purposes of the Act.

Recognition of these economic facts and the desirability of implementing the objectives of the Act should override any tax rule that might normally dictate imposition of tax when property is converted into cash. The proposal would thus achieve the purposes of the Act, removing for the most part tax considerations from the decision whether to use or sell initially-allocated allowances. The proposal would tax the sale transaction on a deferred basis, consistent with the taxation of the use of an allowance, by reducing the basis of pollution control equipment.

Limited Application. The universe of taxpayers eligible under the proposal is appropriately restricted to prevent abuse. First, the proposal is limited to the sale of initial allowances allocated to the utility by the EPA. Second, utilities are eligible for the exclusion from income only if the basis in its pollution control equipment is reduced by an equivalent amount. Consequently, the proposal does not permanently exclude the gain from taxable income; instead, the gain is recognized ratably over the depreciable life of the abatement property.

Moreover, the proposal applies only where the utility invests in equipment that actually results in reduced emissions. Property qualifying under Internal Revenue Code section 169 (e.g., scrubbers) would be eligible. In addition, capital costs associated with boiler modifications and related expenditures undertaken to reduce emissions would qualify. However, non-capital costs incurred, such as increased fuel costs, would be ineligible.

Finally, the proposal is designed to preclude taxpayers from devising artificial transactions that otherwise might technically qualify under the proposal. The proposal incorporates an anti-abuse look-back rule that would deny income deferral to a utility that sells allowances if it purchases replacements within two years.

Deferral of recognition results in clear reflection of income. The Internal Revenue Service might argue that sales of emission allowances should be treated similarly to the advance receipt of fees for services. However, in the case of financial products for which trading markets exist, it is essential that the measurement of taxable income of the parties closely correspond to their economic income from the transaction. Any significant divergence undermines the efficiency of the market. In the case of sales of emission allowances, the utility's economic income is earned not in the year of the sale, but in the years over which the utility's emission reductions produce excess allowances.

Achieves the purposes of the Act. Implementation of the proposal will encourage sound business practices by utilities considering sales of initially-allocated emission allowances and, consequently, will help realize full marketability of the allowances. This marketability feature is the unique aspect of the sulfur dioxide emission reduction program that facilitates achieving the Act's policy objectives of reducing the cost of controlling emissions while increasing the flexibility of utilities in meeting the emission caps.

State utility regulators unaffected. An additional benefit of the proposal is its similarity to tax benefits formerly available under federal tax law. The concepts should be familiar to state regulators and will provide the flexibility necessary to reflect the federal income tax consequences of allowance sales in an appropriate manner.

Appendix

The Clean Air Act Emission Allowance Program

Title IV of the Act seeks to reduce the impact of acid rain through the reduction of sulfur dioxide emissions. The program is implemented through the distribution of transferable emission allowances. Phase I of the program, which begins in 1995, is mandatory for the owners of 110 power plants and permits certain other facilities to opt into the program. Phase II, which commences in 2000, will apply to approximately 800 power plants.

Allocations. Pursuant to the Act, EPA has allocated allowances to certain units (e.g. utility boilers) that were operational on November 15, 1990 (the date of enactment of the Act), and will allocate additional allowances to certain units that have become operational after the enactment date but before January 1, 1996. The EPA will maintain an allowance account (with subaccounts for each year) for each covered unit.

Classes of Allowances. There are two basic types of emission allowances: (a) Table A allowances, and (b) extension and bonus allowances. Table A allowances are to be issued by the EPA to the owners of the 110 plants which are subject to the Phase I SO_2 reductions effective January 1, 1995. These allowances are issued in an amount equal to the average tons of SO_2 which would have been emitted by such facilities annually during the baseline years of 1985-1987 had they achieved an emission rate of 2.5 lbs. SO_2/MMBtu. The EPA is to issue these allowances in such amounts in each of the years 1995 through 1999. In the year 2000, Phase II limitations take effect and the number of allowances to be issued is sufficient to cover an emission rate of 1.2 lbs. SO_2/MMBtu at power production levels that occurred during the 1985-1987 baseline period. The total Phase II allocation, 8.9 million per year, would allow total U.S. power plant emissions to equal roughly half of the total 1980 emission level.

The extension and bonus allowances are available with respect to certain facilities where "qualifying technology" (i.e., "scrubbers") has been installed. Congress provided this pool of allowances to preserve jobs in high sulfur coal-mining areas.

Withheld Allowances. The EPA is directed by the Act to withhold from issuance a small percentage of the allowances allocated under the Act to each unit for a particular year to provide a pool of allowances that EPA will make available through annual auctions and direct sales. The auctions and direct sales are intended to assure that the owners of facilities not covered by Phase I are able to obtain sufficient allowances to apply against their emissions and to stimulate the market for allowances. The withheld allowances will be deposited into reserves, one for direct sales and one for auction sales with the proceeds from any sale to be distributed on a pro rata basis to the designated representatives of the units from which the allowances were withheld. Allowances that go unsold in the auctions will be returned periodically on a pro rata basis to the designated representative of units from which the allowances were withheld.

Delegation to CBOT. The Act authorizes the EPA to delegate administration of the auction and direct sale of withheld allowances to non-governmental organizations. In 1992 EPA selected the Chicago Board of Trade ("CBOT") to manage the auction and sales of withheld allowances for three years. CBOT administered the first such auction in March 1993. In addition, CBOT has received approval from the Commodity Futures Trading Commission to trade clean air futures contracts based on the allowance trading system and to establish a market for options on clean air futures.

Reporting Requirements. Under the Act, the designated representative of a unit must account to the EPA for the total tons of sulfur dioxide emitted during a calendar year. The representative has a "makeup period" (the allowance transfer deadline closes the January 30 following the end of the calendar year) to acquire and record with the EPA allowances sufficient to equal the emissions during that calendar year.

Excess Emissions. The operation of a unit in a manner which causes it to exceed its sulfur dioxide emissions limitation for the year is a violation of the Act (each excess ton being a separate violation). In addition to paying a penalty equal to $1,500 (adjusted by an inflation factor) per ton of excess emissions, the unit must offset this emissions excess by an equal emissions reduction in the succeeding year.

Mr. SHARP. Let me ask you about one of the other specific issues that has arisen that, I think, Mr. Walsh alluded to, and that is the choice of style of auction by the EPA. They chose the price-discriminating approach of auction rather than the single price.

And I might say for the record, originally we had hoped the General Accounting Office would be here to testify. They have been doing an examination of this issue for Congressman Mike Synar's subcommittee, but the action isn't all cleared yet in order to make it public.

So I wondered if you want to address whether you think that is a significant issue, that we would be better off if they switched the style, or is or is it one of those kinds of things where there is pros and cons each way and it is not really the most relevant question?

Mr. WALSH. Clearly, there are pros and cons. We understand that in the development of the regulations and the law, there was an enormous number of issues that had to be addressed and the suggestion that EPA adopt the Treasury—the then existing Treasury style of auction seemed quite reasonable. In fact, I think it was quite reasonable choice.

Indeed, if one held sufficient number of auctions in a sort of repeated game manner, the result would probably be no different from any other auction style. The market would learn and gravitate towards value.

However, there are solid reasons to think that a Dutch auction style with a single price outcome could lead to an auction result that better reflects market conditions. We have had these discussions with EPA, but we sympathize with their need to get their job done as they have been directed.

We haven't pushed the issue because of this theoretical understanding that in the end, it may not be that big of a difference. But should that book be opened again, we would be happy to work with EPA in addressing the changes that might be appropriate and would, of course, undertake a large educational effort to make clear to the industry the significance of the changes and how they can best work with it.

We have worked extensively to promote the use of the EPA auctions because it is so similar and because we think it is a relatively straightforward process for people to, in effect, test the waters. A different auction style would raise some educational challenges, but that is not enough to, in our opinion, to dissuade us from encouraging that they be considered.

Mr. SHARP. Do any of the panelists wish to comment on this?

Mr. SMITH. Yes, I just want to add another point here, that perhaps we ought not to forget. We will be buying and selling a lot of credits across the wire, with the price of our electricity. In addition to that, I think one of the basic purposes of the trading program was to sort of reallocate all of the tons that are out there in such a way that reduces the national cost of compliance.

And as that begins to stabilize, there may not be a hugely robust market. And as people begin to develop their plans into Phase II, it is difficult to predict what we may have out there. I don't think many utilities are going to be going into the SO_2 trading market to buy and sell to make a profit, as other markets are operating.

Mr. SHARP. When you say across the wires, you mean that high cost—where it would be a high-cost-to-comply system that would buy cheaper power from somebody who can generate at cheaper pollution costs, cheaper power, so it will be in power sales rather than in——

Mr. SMITH. Yes, it will be priced out in the power sales.

Mr. SHARP. Mr. Hawkins.

Mr. HAWKINS. Well, as one of the institutions that actually bought an allowance in the auction, I already see things that are simple enough to understand, at least.

Mr. SHARP. Do they remove allowances from the system and reduce——

Mr. HAWKINS. Yes, I would say we haven't made a big dent so far with one, but we are glad to take assistance or anyone else who wants to help us increase our bank. The thing that strikes me about the auction is the large difference in price between the allowances that are bought, where there is no price minimum and the very little activity in what is called the private auction, where utilities or other allowance holders can offer for auction but setting a minimum price.

So you have in both years, this typical price or average price around $150 a ton, but by looking at what the peak price is bid in the open auction, you can figure out what the minimum price must have been for the bulk of these additional allowances that were offered, and sizeable amounts. This year, there were some 58,000, as I calculate it, private allowances offered for sale. But none of them—this isn't the spot, none of them sold. So that means the minimum price must have been more than $200 a ton.

So you have this interesting disconnect between what sellers are willing to sell for, and what buyers, many of them maybe the same institutions or at least in the same industry, are willing to buy for. Which I can't explain, other than it may reflect on this sort of perception of risks and rewards. But there are significant numbers of allowances that are being put out there for sale, but at prices higher than people are willing to pay in the auction. And I just think that is an interesting feature of it.

Mr. SHARP. Mr. Goffman.

Mr. GOFFMAN. Let me hazard a guess that the Agency chose the discriminating design because it judged that it was—that the likely interpretation of the statutory language was that it was required to.

That being said, I don't think it is worth reopening the Clean Air Act to address this problem. And that is not just a flippant remark.

I think considering that one of the purposes of the auction—or let me rephrase that—this information-generating purpose of the auction was only one of its purposes, seems to me that by the time the process got around to figuring out how the auction should be redesigned and then carrying that out, this market will have so many other sources of information that the relative value of the price signal will diminish compared to other mechanisms that the market itself develops and is developing to generate this information.

I am tempted to see whether when I switch off this mike, what Mr. Walsh and Mr. Rose will say about that. But that is at least a market optimist's view.

Mr. SHARP. Perhaps, they would like to respond.

Mr. WALSH. Yes, sir.

Clearly, there is some truth in that, the market will find its way on its own, to a large degree. However, what we have seen is a strong clinging of the market to the EPA auction prices.

And if there is even the possibility that we can provide an auction mechanism that has the possibility of giving a truer read on the market, then assuming EPA can be provided the flexibility to do that at that low cost and reasonably quickly, I would encourage that it be pursued. People are referring to the EPA auction prices. It has become the well, whether, for better or for worse. And if it is for worse, then we should look at alternatives.

One closing comment. I would hope that the utility sector, and I certainly see signs of that from your home State and from other progressive utilities, that the utilities will buy and sell whatever they can make money on. They buy and sell power, with the intention of making money. They move coal barges around when they don't need it, and they try to make money.

If the utilities don't buy and sell with the intention of making profits on a frequent basis in this market, somebody else will. And the standard of behavior will be elevated by those who aren't encumbered by regulation or tradition from using the market to make money from it. It is precisely the concept, that people follow the market closely, that people make fine-tuning adjustments to lower costs using the market.

So it is my hope, and I think it will ultimately bear out 5 to 10 years from now, that many utilities and others of the growing nonutility-generating sector will be frequent players in this market, like they are in other commodity markets, just because they can make money doing it.

Mr. SHARP. Well, gentlemen, I thank you very much for your time and attention to this.

A number of folks have commented on the need to make sure that EPA has sufficient resources to carry out their responsibilities, even though that should not be enormous sums of money in order to do it, as well as some of these other institutions like FERC and like the PUC's and the IRS that need to make some additional decisions to help make this work most effectively. But it does strike me that at least we have set a new policy that is both effective for the main goal of reducing the environmental concern, as well as trying to do it in a more cost-effective manner than we sometimes have been able to do other of our goals.

Thank you very much.

The hearing stands adjourned.

[Whereupon, at 12:31 p.m., the hearing was adjourned.]

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